

STIC Search Report Biotech-Chem Library

STIC Database Tracking Number:113138

TO: Rita Mitra

Location:

Art Unit: 1653

Friday, January 30, 2004

Case Serial Number: (10/032950)

From: Toby Port

Location: Biotech-Chem Library

CM1-6A04

Phone: 308-3534

toby.port@uspto.gov

Search Notes

Dear Examiner Mitra,

Here are the results of your search.

Please feel free to contact me if you have any questions.

Toby Port





STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact the searcher or contact:

Mary Hale, Information Branch Supervisor Remsen Bldg. 01 D86 571-272-2507

Voluntary Results Feedback Form

A	I am an examiner in Workgroup: Example: 1610
> .	Relevant prior art found, search results used as follows:
	 102 rejection 103 rejection Cited as being of interest. Helped examiner better understand the invention. Helped examiner better understand the state of the art in their technology.
	Types of relevant prior art found: Foreign Patent(s) Non-Patent Literature (journal articles, conference proceedings, new product announcements etc.)
\triangleright	Relevant prior art not found:
	Results verified the lack of relevant prior art (helped determine patentability).
	Results were not useful in determining patentability or understanding the invention.
Со	mments:

Drop off or send completed forms to STIC-Biotech-Chem Library Remsen Bldg.



=> file caplus; d que 113; d que 116; d que 118; d que 121; d que 124; d que 125; d que 126
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FILE COVERS 1907 - 30 Jan 2004 VOL 140 ISS 6 FILE LAST UPDATED: 29 Jan 2004 (20040129/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

L3 L4 L5 L6 L7 L12	700510 117619 72487 80387	SEA SEA SEA THU SEA	FILE=CAPLUS FILE=CAPLUS FILE=CAPLUS FILE=CAPLUS)/RL FILE=CAPLUS FILE=CAPLUS	ABB=ON ABB=ON ABB=ON ABB=ON ABB=ON	PLU=ON PLU=ON PLU=ON PLU=ON PLU=ON PLU=ON	· · · · · · · · · · · · · · · · · · ·
L3	21584	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	STAPHYLOCOCCUS AUREUS/CT
L4			FILE=CAPLUS		PLU=ON	PROTEINS/CT
L5			FILE=CAPLUS		PLU=ON	PEPTIDES/CW
L6			FILE=CAPLUS		PLU=ON	ANTIBACTERIAL AGENTS+OLD/CT
L7	80387	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	(L4 OR L5) (L) (PREP OR SPN OR
			/RL			
L10			FILE=CAPLUS		PLU≔ON	LACTAM OR LACTONE
L12	15522	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	(L4 OR L5) (L) CYCL?
L13			FILE=CAPLUS		PLU=ON	L3 AND L7 AND L12 AND L6
L14	14	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L3 AND (L7 OR L12) AND L10
L15			FILE=CAPLUS		PLU=ON	L14 NOT L13
L16	1	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L15 AND DIRECTED/TI
L3	21584	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	STAPHYLOCOCCUS AUREUS/CT
L4.	700510	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	PROTEINS/CT
L5	117619	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	PEPTIDES/CW
L11			FILE=CAPLUS		PLU=ON	AGR
L12	15522	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	(L4 OR L5) (L) CYCL?
L18	, 3	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L3 AND L11 AND L12

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L3
         21584 SEA FILE=CAPLUS ABB=ON PLU=ON
                                                STAPHYLOCOCCUS AUREUS/CT
         700510 SEA FILE=CAPLUS ABB=ON
T.4
                                       PLU=ON
                                                PROTEINS/CT
         117619 SEA FILE=CAPLUS ABB=ON
L5
                                        PLU=ON
                                                PEPTIDES/CW
L10
          94092 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON
                                                LACTAM OR LACTONE
L11
          2682 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON
L12
          15522 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON
                                                (L4 OR L5) (L) CYCL?
              3 SEA FILE=CAPLUS ABB=ON
L18
                                        PLU=ON L3 AND L11 AND L12
L20
              2 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON L3 AND L11 AND ((L4 OR L5) OR
                CYCL?) AND L10
              2 SEA FILE=CAPLUS ABB=ON
L21
                                        PLU=ON L20 NOT L18
L3
         21584 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON
                                                STAPHYLOCOCCUS AUREUS/CT
L4
         700510 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON
                                                PROTEINS/CT
         117619 SEA FILE=CAPLUS ABB=ON
L5
                                        PLU=ON
                                                PEPTIDES/CW
L12
         15522 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON
                                                (L4 OR L5) (L) CYCL?
L22
             69 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON
                                                ACCESSORY GENE REGULAT?
             O SEA FILE=CAPLUS ABB=ON
L24
                                        PLU=ON L3 AND L22 AND L12
         21584 SEA FILE=CAPLUS ABB=ON
L3
                                        PLU=ON STAPHYLOCOCCUS AUREUS/CT
          72487 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON ANTIBACTERIAL AGENTS+OLD/CT
L6
L22
             69 SEA FILE=CAPLUS ABB=ON PLU=ON ACCESSORY GENE REGULAT?
L25
              O SEA FILE=CAPLUS ABB=ON PLU=ON L3 AND L22 AND L6
L3
        21584 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON STAPHYLOCOCCUS AUREUS/CT
L10
         94092 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON
                                               LACTAM OR LACTONE
L22
             69 SEA FILE=CAPLUS ABB=ON
                                        PLU=ON ACCESSORY GENE REGULAT?
L26
             O SEA FILE=CAPLUS ABB=ON
                                        PLU=ON L3 AND L22 AND L10
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=> file medline; d que 135; d que 137; d que 138 FILE 'MEDLINE' ENTERED AT 17:34:18 ON 30 JAN 2004

FILE LAST UPDATED: 29 JAN 2004 (20040129/UP). FILE COVERS 1958 TO DATE.

On December 14, 2003, the 2004 MeSH terms were loaded. See HELP RLOAD for details.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2004 vocabulary. See http://www.nlm.nih.gov/mesh/ and http:\\www.nih.gov/pubs/yechbull/nd03/nd03_mesh.html for a description on changes.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L28	24379	SEA FILE=MEDLINE ABB=ON	PLU=ON	STAPHYLOCOCCUS AUREUS/CT
L29	497	SEA FILE=MEDLINE ABB=ON	PLU=ON	AGR OR ACCESSORY GENE
		REGULAT?		
L30	107060	SEA FILE=MEDLINE ABB=ON	PLU=ON	ANTI-BACTERIAL AGENTS/CT OR
		ANTI-INFECTIVE AGENTS/CT		
L35	5	SEA FILE=MEDLINE ABB=ON	PLU=ON.	L28 AND L29 AND L30

L28	24379	SEA FILE=MEDLINE	ABB=ON PLU=	ON STAPHYLOCOCCUS AUREUS/CT
L29	497	SEA FILE=MEDLINE	ABB=ON PLU=	ON AGR OR ACCESSORY GENE
		REGULAT?	•	
L31	354100	SEA FILE=MEDLINE	ABB=ON PLU=	ON CYCLIC (3A) PROTEIN OR
		PEPTIDE		
L33	56475	SEA FILE=MEDLINE	ABB=ON PLU=	ON LACTONES+NT/CT
L37	2	SEA FILE=MEDLINE	ABB=ON PLU=	ON L28 AND L29 AND L31 AND L33
L28	24379	SEA FILE=MEDLINE	ABB=ON PLU=	ON STAPHYLOCOCCUS AUREUS/CT
L29	497	SEA FILE=MEDLINE	ABB=ON PLU=	ON AGR OR ACCESSORY GENE
				on hon on hechoboni dend
		REGULAT?		on how on needbbont dend
L31	354100	REGULAT? SEA FILE=MEDLINE	ABB=ON PLU=	
L31	354100		ABB=ON PLU=	
L31 L34	354100 72703	SEA FILE=MEDLINE		ON CYCLIC (3A) PROTEIN OR

=> 's 135 or 137 or 138 L73 9 L35 OR L37 OR L38

=> file embase; d que 148; d que 149; d que 150 FILE 'EMBASE' ENTERED AT 17:34:59 ON 30 JAN 2004 COPYRIGHT (C) 2004 Elsevier Inc. All rights reserved.

FILE COVERS 1974 TO 29 Jan 2004 (20040129/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L39	35935	SEA FILE=E	EMBASE ABB=ON	PLU=ON	"STAPHYLOCOCCUS AUREUS"+ALL/CT
L40 L41	838278 363		EMBASE ABB=ON EMBASE ABB=ON	PLU=ON PLU=ON	ANTIINFECTIVE AGENT+NT/CT AGR OR ACCESSORY GENE REGULAT?
L42	30871	SEA FILE=E	EMBASE ABB=ON	PLU=ON	(PROTEIN OR PEPTIDE) (3A)
L48	0		EMBASE ABB=ON	PLU=ON	L39 AND L41 AND L40 AND L42
L39	35935	SEA FILE=E	EMBASE ABB=ON	PLU=ON	"STAPHYLOCOCCUS AUREUS"+ALL/CT
L40 L41	838278 363		EMBASE ABB=ON EMBASE ABB=ON	PLU=ON PLU=ON	ANTIINFÉCTIVE AGENT+NT/CT AGR OR ACCESSORY GENE REGULAT?
L44 L45 L49	4193 7912 0	SEA FILE=E	EMBASE ABB=ON EMBASE ABB=ON EMBASE ABB=ON	PLU=ON PLU=ON PLU=ON	LACTAM+NT/CT LACTONE+NT/CT L39 AND L41 AND L40 AND (L44
L39	35935	SEA FILE=E	EMBASE ABB=ON	PLU=ON	"STAPHYLOCOCCUS AUREUS"+ALL/CT

L40	838278	SEA	FILE=EMBASE	ABB=ON	PLU=ON	ANTIINFECTIVE AGENT+NT/CT
L41	363	SEA	FILE=EMBASE	ABB=ON	PLU=ON	AGR OR ACCESSORY GENE REGULAT?
L50	0	SEA	FILE=EMBASE	ABB=ON	PLU=ON	L39 AND L41 AND L40 AND CYCL?

=> file wpid; d que 157; d que 158; d que 160 FILE 'WPIDS' ENTERED AT 17:35:16 ON 30 JAN 2004 COPYRIGHT (C) 2004 THOMSON DERWENT

FILE LAST UPDATED: 28 JAN 2004 <20040128/UP>
MOST RECENT DERWENT UPDATE: 200407 <200407/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

- >>> NEW WEEKLY SDI FREQUENCY AVAILABLE --> see NEWS <
- >>> PATENT IMAGES AVAILABLE FOR PRINT AND DISPLAY <<<

L56

- >>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
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 http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<.</pre>
- >>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE http://thomsonderwent.com/coverage/latestupdates/ <<<
- >>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER GUIDES, PLEASE VISIT: http://thomsonderwent.com/support/userguides/ <<<
- >>> ADDITIONAL POLYMER INDEXING CODES WILL BE IMPLEMENTED FROM DERWENT UPDATE 200403.

 THE TIME RANGE CODE WILL ALSO CHANGE FROM 018 TO 2004.

 SDIS USING THE TIME RANGE CODE WILL NEED TO BE UPDATED.

 FOR FURTHER DETAILS: http://thomsonderwent.com/chem/polymers/ <<<

L51	3758	SEA FILE=WPIDS	ABB=ON	PLU=ON	STAPHYLOCOCCUS AUREUS
L52	1246	SEA FILE=WPIDS	ABB=ON	PLU=ON	S AUREUS
L53	92	SEA FILE=WPIDS	ABB=ON	PLU=ON	AGR OR ACCESSORY GENE REGULAT?
L54	48087	SEA FILE=WPIDS	ABB=ON	PLU=ON	ANTIBACTER? OR ANTIINFECT? OR
		BACTERICID? OR	ANTI (W)	(BACTE	R? OR INFECT?)
L57	7	SEA FILE=WPIDS	ABB=ON	PLU=ON	(L51 OR L52) AND L53 AND L54
					•
L51	3758	SEA FILE=WPIDS	ABB=ON	PLU=ON	STAPHYLOCOCCUS AUREUS
L52	1246	SEA FILE=WPIDS	ABB=ON	PLU=ON	S AUREUS
L53	92	SEA FILE=WPIDS	ABB=ON	PLU=ON	AGR OR ACCESSORY GENE REGULAT?
L55	19291	SEA FILE=WPIDS	ABB=ON	PLU=ON	LACTAM OR LACTONE
L58	2	SEA FILE=WPIDS	ABB=ON	PLU=ON	(L51 OR L52) AND L53 AND L55
	•				
L51	3758	SEA FILE-WPIDS	ABB=ON	PLU=ON	STAPHYLOCOCCUS AUREUS
L52	1246	SEA FILE=WPIDS	ABB=ON	PLU=ON	S AUREUS
L53	92	SEA FILE=WPIDS	ABB=ON	PLU=ON	AGR OR ACCESSORY GENE REGULAT?

2040 SEA FILE=WPIDS ABB=ON PLU=ON (PEPTIDE OR PROTEIN) (3A) CYCL?

L60 4 SEA FILE=WPIDS ABB=ON PLU=ON (L51 OR L52) AND L53 AND L56

=> s 157 or 158 or 160 . L74 7 L57 OR L58 OR L60

=> file biosis; d que 168; d que 171 FILE 'BIOSIS' ENTERED AT 17:35:48 ON 30 JAN 2004 COPYRIGHT (C) 2004 BIOLOGICAL ABSTRACTS INC.(R)

FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 28 January 2004 (20040128/ED)

FILE RELOADED: 19 October 2003.

L62	60064		FILE=BIOSIS AUREUS	ABB=ON	PLU=ON	(STAPHYLOCOCCUS OR STAPH OR S)
L63	604	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	AGR OR ACCESSORY GENE REGULAT?
L64		ANT]		R? OR IN		ANTIBACTER? OR ANTIINFECT? OR BACTERICID?
L67	26	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	L62 AND L63 AND L64
L68	1	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	L67 AND ENGINEERED/TI
L62	60064		FILE=BIOSIS AUREUS ·	ABB=ON	PLU=ON	(STAPHYLOCOCCUS OR STAPH OR S)
L63	604	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	AGR OR ACCESSORY GENE REGULAT?
L66	29093	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	LACTONE OR LACTAM
L70	. 5	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	L62 AND L63 AND L66
L71	1	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	L70 AND EVOLUTION/TI

=> dup rem 173 172 175 174 FILE 'MEDLINE' ENTERED AT 17:36:22 ON 30 JAN 2004

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PROCESSING COMPLETED FOR L73
PROCESSING COMPLETED FOR L72
PROCESSING COMPLETED FOR L75
PROCESSING COMPLETED FOR L74
L76
34 DUP REM L73 L72 L75 L74 (3 DUPLICATES REMOVED)
ANSWERS '1-9' FROM FILE MEDLINE

ANSWERS '10-27' FROM FILE CAPLUS ANSWER '28' FROM FILE BIOSIS ANSWERS '29-34' FROM FILE WPIDS

=> d ibib ab 176 1-34

L76 ANSWER 1 OF 34 MEDLINE on STN

ACCESSION NUMBER: 2001444137 MEDLINE

DOCUMENT NUMBER: PubMed ID: 11489134 21382775

TITLE: Structure, activity and evolution of the group I

thiolactone peptide quorum-sensing system of

Staphylococcus aureus.

AUTHOR: MDowell P; Affas Z; Reynolds C; Holden M T; Wood S J; Saint

S; Cockayne A; Hill P J; Dodd C E; Bycroft B W; Chan W C;

DUPLICATE 2

Williams P

CORPORATE SOURCE: Institute of Infections and Immunity, School of

Pharmaceutical Sciences, and School of BioSciences, University of Nottingham, Nottingham NG7 2RD, UK.

MOLECULAR MICROBIOLOGY, (2001 Jul) 41 (2) 503-12. Journal code: 8712028. ISSN: 0950-382X. SOURCE:

PUB. COUNTRY: England: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

GENBANK-AF001782; GENBANK-AF001783 OTHER SOURCE:

ENTRY MONTH: 200204

ENTRY DATE: Entered STN: 20010813

Last Updated on STN: 20020412

Entered Medline: 20020411

AΒ In Staphylococcus aureus, the agr locus is responsible for controlling virulence gene expression via quorum sensing. As the blockade of quorum sensing offers a novel strategy for attenuating infection, we sought to gain novel insights into the structure, activity and turnover of the secreted staphylococcal autoinducing peptide (AIP) signal molecules. A series of analogues (including the L-alanine and D-amino acid scanned peptides) was synthesized to determine the functionally critical residues within the S. aureus group I AIP. As a consequence, we established that (i) the group I AIP is inactivated in culture supernatants by the formation of the corresponding methionyl sulphoxide; and (ii) the group I AIP lactam analogue retains the capacity to activate agr, suggesting that covalent modification of the AgrC receptor is not a necessary prerequisite for agr activation. Although each of the D-amino acid scanned AIP analogues retained activity, replacement of the endocyclic amino acid residue (aspartate) located C-terminally to the central cysteine with alanine converted the group I AIP from an activator to a potent inhibitor. The screening of clinical S. aureus isolates for novel AIP groups revealed a variant that differed from the group I AIP by a single amino acid residue (aspartate to tyrosine) in the same position defined as critical by alanine scanning. Although this AIP inhibits group I S. aureus strains, the producer strains possess a functional agr locus dependent on the endogenous peptide and, as such, constitute a fourth S. aureus AIP pheromone group (group IV). The addition of exogenous synthetic AIPs to S. aureus inhibited the production of toxic shock syndrome toxin (TSST-1) and enterotoxin C3, confirming the potential of quorum-sensing blockade as a therapeutic strategy.

L76 ANSWER 2 OF 34

MEDLINE on STN

DUPLICATE 3

ACCESSION NUMBER:

1999145530 MEDLINE

DOCUMENT NUMBER:

99145530 PubMed ID: 9990004

TITLE:

Structure-activity analysis of synthetic autoinducing

thiolactone peptides from Staphylococcus aureus

responsible for virulence.

AUTHOR: Mayville P; Ji G; Beavis R; Yang H; Goger M; Novick R P;

Muir T W

CORPORATE SOURCE: Laboratory of Synthetic Protein Chemistry, The Rockefeller

University, 1230 York Avenue, New York, NY 10021, USA.

CONTRACT NUMBER: A142783 (NIAID)

AI30138-09 (NIGMS)

GM55843-01

SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE

UNITED STATES OF AMERICA, (1999 Feb 16) 96 (4) 1218-23.

Journal code: 7505876. ISSN: 0027-8424.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199903

ENTRY DATE: Entered STN: 19990402

Last Updated on STN: 19990402 Entered Medline: 19990325

AB The synthesis of virulence factors and other extracellular proteins responsible for pathogenicity in Staphylococcus aureus is under the control of the agr locus. A secreted agr-encoded peptide, AgrD, processed from the AgrD gene product, is known to be an effector of self-strain activation and cross-strain inhibition of the agr response. Biochemical analysis of AgrD peptides isolated from culture supernatants has suggested that they contain an unusual thiol ester-linked cyclic structure. In the present work, chemical synthesis is used to confirm that the mature AgrD peptides contain a thiolactone structure and that this feature is absolutely necessary for full biological activity. The AgrD synthetic thiolactone peptides exhibited biological activity in vivo in a mouse protection test. Structure-activity studies have allowed key aspects of the peptide structure involved in the differential activation and inhibition functions to be identified. Accordingly, we propose a model for activation and inhibition of the agr response in which the former, but not the latter, involves specific

L76 ANSWER 3 OF 34 MEDLINE on STN ACCESSION NUMBER: 2003145749 MEDLINE

DOCUMENT NUMBER: 22546994 PubMed ID: 12660939

TITLE: Staphylococcus aureus accessory gene regulator (agr) group II: is there a

acylation of the agr transmembrane receptor, AgrC.

relationship to the development of intermediate-level

glycopeptide resistance?.

AUTHOR: Sakoulas George; Eliopoulos George M; Moellering Robert C

Jr; Novick Richard P; Venkataraman Lata; Wennersten Christine; DeGirolami Paola C; Schwaber Mitchell J; Gold

Howard S

CORPORATE SOURCE: Department of Medicine, Division of Laboratory and

Transfusion Medicine and Harvard Medical School, Boston, Massachussetts, USA.. gsakoulas@crystalrunhealthcare.com JOURNAL OF INFECTIOUS DISEASES, (2003 Mar 15) 187 (6)

929-38.

Journal code: 0413675. ISSN: 0022-1899.

PUB. COUNTRY: Ur

United States
Journal; Article; (JOURNAL ARTICLE)

DOCUMENT TYPE: LANGUAGE:

English

FILE SEGMENT:

SOURCE:

Abridged Index Medicus Journals; Priority Journals

ENTRY MONTH:

200304

ENTRY DATE:

Entered STN: 20030331

Last Updated on STN: 20030426 Entered Medline: 20030425

AΒ We previously determined that all 6 Staphylococcus aureus strains with confirmed intermediate-level resistance to glycopeptides (glycopeptide intermediate S. aureus [GISA]) from the United States that we tested belonged to accessory gene regulator (agr) group II. In the present study, we found that 56% of surveyed bloodstream methicillin-resistant S. aureus isolates (n = 148) at our hospital were agr group II, whereas only 24% of methicillin-susceptible S. aureus isolates (n = 33) were agr group II (P = .001). Population analysis of genetically engineered agr-null and parent wild-type strains of groups I, II, and IV revealed that, when agr function is lost, the agr group II knockout S. aureus was most likely to develop glycopeptide heteroresistance after growth in 1 microg/mL but not 16 microg/mL vancomycin. This strain was unique in showing decreased autolysis after growth in these conditions. This study suggests that some S. aureus strains have an intrinsic survival advantage under a glycopeptide selective pressure, which is possibly related to reduced autolysis after

L76 ANSWER 4 OF 34 MEDLINE on STN ACCESSION NUMBER: 2003333177 MEDLINE DOCUMENT NUMBER: PubMed ID: 12865410

TITLE:

Salicylic acid attenuates virulence in endovascular infections by targeting global regulatory pathways in

Staphylococcus aureus.

COMMENT:

Comment in: J Clin Invest. 2003 Jul;112(2):149-51. PubMed

ID: 12865403

AUTHOR:

Kupferwasser Leon Iri; Yeaman Michael R; Nast Cynthia C; Kupferwasser Deborah; Xiong Yan-Qiong; Palma Marco; Cheung

Ambrose L; Bayer Arnold S

exposure to subinhibitory concentrations of glycopeptide.

CORPORATE SOURCE:

Division of Infectious Disease, Harbor-UCLA (University of

California-Los Angeles), Torrance, California, USA.

CONTRACT NUMBER:

JMBER: AI-37142 (NIAID)

AI-39001 (NIAID) AI-39108 (NIAID)

SOURCE:

Journal of clinical investigation, (2003 Jul) 112 (2)

222-33.

Journal code: 7802877. ISSN: 0021-9738.

PUB. COUNTRY:

United States

DOCUMENT TYPE:

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE:

English

FILE SEGMENT:

Abridged Index Medicus Journals; Priority Journals

ENTRY MONTH:

200308

ENTRY DATE:

Entered STN: 20030717

Last Updated on STN: 20030807 Entered Medline: 20030806

Aspirin has been previously shown to reduce the in vivo virulence of Staphylococcus aureus in experimental endocarditis, through antiplatelet and antimicrobial mechanisms. In the present study, salicylic acid, the major in vivo metabolite of aspirin, mitigated two important virulence phenotypes in both clinical and laboratory S. aureus strains: alpha-hemolysin secretion and fibronectin binding in vitro. In addition, salicylic acid reduced the expression of the alpha-hemolysin gene promoter, hla, and the fibronectin gene promoter, fnbA. Transcriptional analysis, fluorometry, and flow cytometry revealed evidence of salicylic acid-mediated activation of the stress-response gene sigB. Expression of the sigB-repressible global regulon sarA and the global regulon agr were also mitigated by salicylic acid, corresponding to the

reduced expression of the hla and fnbA genes in vitro. Studies in experimental endocarditis confirmed the key roles of both sarA and sigB in mediating the antistaphylococcal effects of salicylic acid in vivo. Therefore, aspirin has the potential to be an adjuvant therapeutic agent against endovascular infections that result from S. aureus, by downmodulating key staphylococcal global regulons and structural genes in vivo, thus abrogating relevant virulence phenotypes.

MEDLINE on STN L76 ANSWER 5 OF 34

ACCESSION NUMBER: 2001248100 MEDLINE 21189213

DOCUMENT NUMBER: PubMed ID: 11292717

TITLE: Subinhibitory clindamycin differentially inhibits

transcription of exoprotein genes in Staphylococcus aureus.

AUTHOR: Herbert S; Barry P; Novick R P

Program in Molecular Pathogenesis, Skirball Institute, New CORPORATE SOURCE:

York University School of Medicine, New York, New York

10016, USA.

CONTRACT NUMBER: RO1-AI30138 (NIAID)

INFECTION AND IMMUNITY, (2001 May) 69 (5) 2996-3003. SOURCE:

Journal code: 0246127. ISSN: 0019-9567.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE) DOCUMENT TYPE:

English LANGUAGE:

Priority Journals FILE SEGMENT:

ENTRY MONTH: 200105

ENTRY DATE: Entered STN: 20010517

> Last Updated on STN: 20010517 Entered Medline: 20010510

AB It has long been known that certain antibiotics, at subinhibitory concentrations, differentially inhibit the synthesis of alpha-hemolysin and other staphylococcal virulence factors. In this report, we show that subinhibitory clindamycin (SBCL) eliminates production of nearly all exoproteins by Staphylococcus aureus but has virtually no effect on cytoplasmic proteins. The effect was abolished by a gene conferring resistance to macrolides-lincosamides-streptogramin B, showing that differential inhibition of protein synthesis is responsible; remarkably, however, subinhibitory clindamycin blocked production of several of the individual exoprotein genes, including spa (encoding protein A), hla (encoding alpha-hemolysin), and spr (encoding serine protease), at the level of transcription, suggesting that the primary effect must be differential inhibition of the synthesis of one or more regulatory proteins. In contrast to earlier reports, however, we found that subinhibitory clindamycin stimulates synthesis of coagulase and fibronectin binding protein B, also at the level of transcription. agr and sar expression was minimally affected by subinhibitory clindamycin. These effects varied from strain to strain and do not seem to be responsible for the effects of subinhibitory clindamycin on the overall exoprotein pattern.

L76 ANSWER 6 OF 34 MEDLINE on STN ACCESSION NUMBER: 2001285436 MEDLINE

PubMed ID: 11179383 DOCUMENT NUMBER: 21117027

Pheromone cross-inhibition between Staphylococcus aureus TITLE:

and Staphylococcus epidermidis.

AUTHOR: Otto M; Echner H; Voelter W; Gotz F

Mikrobielle Genetik, Abteilung fur Physikalische Biochemie, CORPORATE SOURCE:

Universitat Tubingen, Tubingen, Germany...

michael.otto@uni-tuebingen.de

INFECTION AND IMMUNITY, (2001 Mar) 69 (3) 1957-60. Journal code: 0246127. ISSN: 0019-9567. SOURCE:

United States PUB. COUNTRY:

DOCUMENT TYPE:

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE:

English

FILE SEGMENT:

Priority Journals

ENTRY MONTH:

200105

ENTRY DATE:

Entered STN: 20010529

Last Updated on STN: 20010529

Entered Medline: 20010524

AB Cross-inhibition by quorum-sensing pheromones between Staphylococcus aureus and Staphylococcus epidermidis was investigated using all known S aureus agr pheromone subgroups. All S. aureus subgroups were sensitive towards the S. epidermidis pheromone, with the exception of the recently identified subgroup 4. The subgroup 4 pheromone was also the only S. aureus pheromone able to inhibit the S. epidermidis agr response. The close relation of subgroup 4 to subgroup 1 suggests that subgroup 4 might have evolved from subgroup 1 by mutation under the selective pressure of competition with S. epidermidis. The competition between S. aureus and S. epidermidis by means of quorum-sensing cross talk seems to be generally in favor of S. epidermidis, which might explain the predominance of S. epidermidis on the skin and in infections on indwelling medical devices.

L76 ANSWER 7 OF 34

MEDLINE on STN

ACCESSION NUMBER: DOCUMENT NUMBER:

2001541407 MEDLINE

TITLE:

21472528 PubMed ID: 11587788

Staphylococcus aureus and Staphylococcus epidermidis

peptide pheromones produced by the accessory

gene regulator agr system.

AUTHOR:

Otto M

CORPORATE SOURCE:

Rocky Mountain Laboratory, Laboratory of Human Bacterial Pathogenesis, NIAID, NIH, 903 South 4th Street, Hamilton,

MT 59840, USA.. motto@niaid.nih.gov

SOURCE:

PEPTIDES, (2001 Oct) 22 (10) 1603-8. Ref: 39

Journal code: 8008690. ISSN: 0196-9781.

PUB. COUNTRY:

DOCUMENT TYPE:

United States
Journal; Article; (JOURNAL ARTICLE)

General Review; (REVIEW)

(REVIEW, TUTORIAL)

LANGUAGE:

English

FILE SEGMENT:

Priority Journals

ENTRY MONTH:

200112

ENTRY DATE:

Entered STN: 20011008

Last Updated on STN: 20020122 Entered Medline: 20011214

AB The accessory gene regulator (agr)

system of staphylococci regulates the expression of virulence factors in response to cell density. The extracellular signaling molecule encoded by this system is a thiolactone-containing pheromone peptide whose primary sequence varies among staphylococcal strains. A post-translational modification of the peptide is believed to be carried out by an enzyme with a novel function, AgrB. Staphylococcal pheromones show cross-inhibiting properties: Pheromones of self and pheromones of non-self induce and suppress the agr response, respectively, and have therefore been proposed as novel anti-staphylococcal drugs. As inhibition of agr leads to diminished expression of toxins, but to increased expression of colonization factors and biofilm formation, their therapeutic potential remains yet to be evaluated in depth.

L76 ANSWER 8 OF 34

MEDLINE on STN

ACCESSION NUMBER:

2001284536 MEDLINE

DOCUMENT NUMBER:

20542125 PubMed ID: 11087872

TITLE:

Rational design of a global inhibitor of the virulence

response in Staphylococcus aureus, based in part on

localization of the site of inhibition to the

receptor-histidine kinase, AgrC.

AUTHOR: Lyon G J; Mayville P; Muir T W; Novick R P

CORPORATE SOURCE: Laboratory of Synthetic Protein Chemistry, The Rockefeller

University, 1230 York Avenue, New York, NY 10021, USA.

CONTRACT NUMBER: AI 42783 (NIAID)

GM07739 (NIGMS)

SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE

UNITED STATES OF AMERICA, (2000 Nov 21) 97 (24) 13330-5.

Journal code: 7505876. ISSN: 0027-8424.

PUB. COUNTRY:

United States

DOCUMENT TYPE:

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE:

English

FILE SEGMENT:

Priority Journals

ENTRY MONTH:

200105

ENTRY DATE:

Entered STN: 20010529

Last Updated on STN: 20010529 Entered Medline: 20010524

AΒ Two-component signaling systems involving receptor-histidine kinases are ubiquitous in bacteria and have been found in yeast and plants. These systems provide the major means by which bacteria communicate with each other and the outside world. Remarkably, very little is known concerning the extracellular ligands that presumably bind to receptor-histidine kinases to initiate signaling. The two-component agr signaling circuit in Staphylococcus aureus is one system where the ligands are known in chemical detail, thus opening the door for detailed structure-activity relationship studies. These ligands are short (8- to 9-aa) peptides containing a thiolactone structure, in which the alpha-carboxyl group of the C-terminal amino acid is linked to the sulfhydryl group of a cysteine, which is always the fifth amino acid from the C terminus of the peptide. One unique aspect of the agr system is that peptides that activate virulence expression in one group of S. aureus strains also inhibit virulence expression in other groups of S. aureus strains. Herein, it is demonstrated by switching the receptor-histidine kinase, AgrC, between strains of different agr specificity types, that intragroup activation and intergroup inhibition are both mediated by the same group-specific receptors. These results have facilitated the development of a global inhibitor of virulence in S. aureus, which consists of a truncated version of one of the naturally occurring thiolactone peptides.

L76 ANSWER 9 OF 34 MEDLINE on STN ACCESSION NUMBER: 2001010995 MEDLINE

DOCUMENT NUMBER:

20461218 PubMed ID: 11004170

TITLE:

Population studies of methicillin-resistant and -sensitive Staphylococcus aureus strains reveal a lack of variability in the agrD gene, encoding a staphylococcal autoinducer

peptide.

AUTHOR:

van Leeuwen W; van Nieuwenhuizen W; Gijzen C; Verbrugh H;

van Belkum A

CORPORATE SOURCE:

Department of Medical Microbiology and Infectious Diseases, Erasmus University Medical Center Rotterdam, Rotterdam, The

Netherlands.. vanleeuwen@bacl.azr.nl

SOURCE:

JOURNAL OF BACTERIOLOGY, (2000 Oct) 182 (20) 5721-9.

Journal code: 2985120R. ISSN: 0021-9193.

PUB. COUNTRY:

United States

DOCUMENT TYPE:

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE:

English

FILE SEGMENT:

Priority Journals

ENTRY MONTH:

200010

ENTRY DATE:

Entered STN: 20010322

Last Updated on STN: 20010322 Entered Medline: 20001026

The virulence of Staphylococcus aureus is controlled by the AΒ accessory gene regulator (agr)

system, including an extracellular inducer encoded by agrD. Variable agr PCR restriction fragment length polymorphism (RFLP) patterns of unique S. aureus strains (n = 192) were determined for a region comprising agrD and parts of the neighboring agrC and agrB genes. Twelve unique RFLP patterns were identified among S. aureus strains in general; these patterns were further specified by sequencing. All sequences could be catalogued in the three current agr groups. A major proportion of the S. aureus strains belong to agr group 1, whereas only 6% of the methicillin-susceptible S. aureus strains and 5% of the methicillin-resistant S. aureus strains belong to agr groups 2 and 3, respectively. The homology between groups varied from 75 to 80%, and within groups it varied from 96 to 100%. Different levels of sequence variability were observed in the different agr genes. agr-related bacterial interference among colonizing S. aureus strains in the noses of persistent and intermittent human carriers was studied. S. aureus strains belonging to different agr groups were encountered in the same individual. This may suggest that the activity of the agrD gene product does not define colonization dynamics, which is further substantiated by the rarity of agr group 2 and 3 strains.

L76 ANSWER 10 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1

ACCESSION NUMBER:

2002:688473 CAPLUS

DOCUMENT NUMBER:

137:222001

TITLE:

Blocking expression of virulence factors in

INVENTOR(S):

PATENT ASSIGNEE(S):

SOURCE:

Staphylococcus aureus with peptide compositions

Novick, Richard P.; Ji, Guangyong; Beavis, Ronald

New York University, USA

U.S., 12 pp., Cont.-in-part of U.S. Ser. No. 651,226, abandoned.

DOCUMENT TYPE:

LANGUAGE:

Patent

CODEN: USXXAM

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE		APPLICATION NO.	DATE
US 6447786	В1	20020910		US 1997-861476	19970522
us 2003078378	A1 -	20030424		US 2002-201444	20020723
PRIORITY APPLN. INFO.	:		US	1994-318499 E	2 19941004
			US	1996-651226 E	2 19960522
			US	1997-861476 P	1 19970522

This invention provides peptides which inhibit agr transcription AΒ in S. aureus and thereby block the expression of virulence factors in S. aureus, pharmaceutical compns. comprising these peptides, as well as methods for treating or preventing an infection or disease caused by S. aureus using the peptides of the present invention.

THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: 15 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 11 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2004:41215 CAPLUS

TITLE: INVENTOR(S): Preparation of nocathiacin O-derivatives Hudyma, Thomas W.; Zheng, Xiaofan; Naidu, B. Narasimhulu; Sorenson, Margaret E.; Regueiro-Ren, Alicia; Connolly, Timothy P.; Matiskella, John D.; Kim, Oak K.; Zhang, Yunhui; Springer, Dane M.; Goodrich, Jason; Ueda, Yasutsugu; Bronson, Joanne J.

Bristol-Myers Squibb Company, USA

PATENT ASSIGNEE(S): SOURCE:

PCT Int. Appl., 53 pp. CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION: DAMENIE NO.

	PAT	ENT	NO.		KII	1D	DATE		APPLICATION NO. DATE										
	WO	2004							WO 2003-US21012						20030702				
		W:													BZ,				
			CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,	
															KΖ,				
			LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MΧ,	MΖ,	NΙ,	NO,	NΖ,	OM,	
			PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,	TJ,	TM,	TN,	
			TR,	TT,	TZ,	UA,	UG,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW,	AM,	ΑZ,	BY,	KG,	
			KΖ,	MD,	RU,	ΤJ													
		RW:	GH,	GM,	KE,	LS,	MW,	ΜZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AT,	BE,	BG,	
			CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	ΙΤ,	LU,	MC,	
			NL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	
			GW,	ML,	MR,	NE,	SN,	TD,	ΤG										
	US	2004	0189	63	A.	1 .	20040	0129		U	S 200	02-18	39710)	20020	0703			
PRIO		APP													20020				
AB	The	inv	enti	on p	rovi	des	compo	ds. 3	I [Z	= N	H2 01	r NHO	C(:CI	12)C	ONH2;	: R1	==		
	1-n	nethy	1-4-	imida	azol	ylsu.	lfon	yl, t	trip	yrro.	linop	phos	ohon:	ium,	Н, р	phos	phony	/1,	
	acy	1, 0	r ca:	rbamo	oyl (grou	os,	(CH20	CH2O) 1 - 61	Me,	(un)	subs	citu	ted a	alkyl	l, al	Lkenyl,	
	alk	ynyl	; R2	$= h_{2}$	ydro	ky-fi	uncti	iona.	lize	d te	trahy	ydrop	oyrai	n de	rivs.	., н,	,		
	pho	spho	nyl,	acy.	1, 0	r da:	rbamo	oyl (group	os, S	SO3H,	, (CI	12CH2	20)1	-6Н,				
	(CE	I2CH2	0)1-	6Me,	(un)	sub:	stitu	uted	alk	yl, a	alker	nyl,	alk	ynyl] hav	ving	pote	ent	
	ant	ibio	tic a	acti	vity.	, in	clud	ing a	acti	vity	towa	ards	Grai	n-po	s. ba	actei	ria a	and	
	myc	obac	teri	a. :	Thus,	, I	(Z =	NHC	(:CH	2) COI	NH2,	R1 =	= Me	, R2	= H) was	s pre	epared by	
	O-m	nethy	lati	on o	f no	cath.	iaci	n I a	and :	show	ed Mi	IC =	0.0	15,	0.003	3, ar	nd 0	.015	
	μq/	mL a	ssay	ed a	gain:	st S	taphy	yloc	occu	s au:	reus	, St	repto	осос	cus p	oneur	nonia	ae,	
	anc	Ent	eroc	occus	s fa	ecal.	is,	resp.											

L76 ANSWER 12 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2003:1007003 CAPLUS

DOCUMENT NUMBER:

INVENTOR(S):

140:59934

TITLE:

Synthesis of cyclic peptide macrolides for use in the

treatment and prevention of bacterial infection Lampe, Thomas; Adelt, Isabelle; Beyer, Dieter; Brunner, Nina; Endermann, Rainer; Ehlert, Kerstin; Kroll, Hein-Peter; Von Nussbaum, Franz; Raddatz,

Siegfried; Rudolph, Joachim; Schiffer, Guido; Schumacher, Andreas; Cancho-Grande, Yolanda; Michels,

Martin; Weigand, Stefan

PATENT ASSIGNEE(S):

Bayer Healthcare A.-G., Germany

SOURCE:

PCT Int. Appl., 190 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

APPLICATION NO. DATE PATENT NO. KIND DATE

```
WO 2003106480
                                           WO 2003-EP6078
                            20031224
                                                             20030610
                       Α1
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
             PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT,
             TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ,
             MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
             NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
             GW, ML, MR, NE, SN, TD, TG
                                            DE 2002-10226921 20020617
     DE 10226921
                       A1
                            20031224
                                         DE 2002-10226921 A 20020617
PRIORITY APPLN. INFO.:
     The invention relates to antibacterial amide macrocycles, e.g. (I), to
     methods for the production thereof, and to the use of the same for producing
     pharmaceuticals for the treatment and/or prophylaxis of illness, especially
     bacterial infections. Title compds. were synthesized beginning with
     salicylaldehyde, which was 5-iodinated, O-protected, reduced to the
     hydroxymethyl, brominated on the CH2 group, and coupled with di-Et
     2-tert-butoxycarbonylaminomalonate, which, after decarboxylation and
     deesterification, gave the (DL)-N-Boc-protected 2'-benzyloxy-5'-iodo-
     phenylalanine (II). II was resolved into its pure D- and L-enantiomers;
     the L-II was protected as the N-Cbz derivative, then esterified with
     2-(trimethylsilyl)ethanol, then reacted with (III) (prepared from II and
     4,4,4',4',5,5,5',5'-octamethyl-2,2'-bi-1,3,2-dioxaborolane) to give
     biphenyl compound (IV). In a sep. reaction, (V) was prepared from the
     corresponding L-ornithine tert-Bu ester, the lactone opened and the alc.
     protected as the tert-butyldimethylsilyl derivative, and reacted with biphenyl
     IV, to give, after deprotection and amide formation, I as the
     dihydrochloride salt. In in vitro tests, using S. aureus, E. faecalis, B.
     catarrhalis, and E. coli strains, I had min. blood concentration effective ranges
     of 0.2-6.25 \mu M.
                               THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
REFERENCE COUNT:
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
                      CAPLUS COPYRIGHT 2004 ACS on STN
L76 ANSWER 13 OF 34
                         2003:521316 CAPLUS
ACCESSION NUMBER:
                         139:277145
DOCUMENT NUMBER:
                         Side-chain-to-tail thiolactone peptide inhibitors of
TITLE:
                         the staphylococcal quorum-sensing system
                         Scott, R. John; Lian, Lu-Yun; Muharram, S. Hanna;
AUTHOR(S):
                         Cockayne, Alan; Wood, Stewart J.; Bycroft, Barrie W.; Williams, Paul; Chan, Weng C.
                         School of Pharmaceutical Sciences, University of
CORPORATE SOURCE:
                         Nottingham, Nottingham, NG7 2RD, UK
                         Bioorganic & Medicinal Chemistry Letters (2003),
SOURCE:
                         13(15), 2449-2453
CODEN: BMCLE8; ISSN: 0960-894X
                         Elsevier Science B.V.
PUBLISHER:
DOCUMENT TYPE:
                         Journal
                         English
LANGUAGE:
     The expression of many staphylococcal virulence factors are regulated by
     the agr locus via a two-component signal transduction system
     (TCSTS), which is activated in response to a secreted autoinducer peptide
     (AIP). By exploiting the unique chemical architecture of the naturally
     occurring AIP-1, several potent inhibitors of staphylococcal TCSTS were
     designed and synthesized using either a linear or branched solid-phase
     approach. These prepared inhibitors I [R1 = CH(NH2)(S)-CH24-C6H4OH, R2 =
     Me, or CH2Me; R1 = (CH2)3OC6H4CH2Ph, or (CH2)3OC6H4COPh, R2 = Me] are
     competitive binders and contain the crucial 16-membered side-chain-to-tail
```

thiolactone peptide pharmacophore.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 14 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2003:171160 CAPLUS

DOCUMENT NUMBER:

138:332795

TITLE:

AUTHOR (S):

Transcriptional induction of the penicillin-binding

protein 2 gene in Staphylococcus aureus by cell wall-active antibiotics oxacillin and vancomycin Boyle-Vavra, Susan; Yin, Shaohui; Challapalli,

CORPORATE SOURCE:

Mamatha; Daum, Robert S. Department of Pediatrics, The University of Chicago,

Chicago, IL, 60637, USA

SOURCE:

Antimicrobial Agents and Chemotherapy (2003), 47(3),

1028-1036

CODEN: AMACCQ; ISSN: 0066-4804 American Society for Microbiology

PUBLISHER: DOCUMENT TYPE:

Journal

LANGUAGE: English

We found an increased abundance of pbpB-specific transcripts in vancomycin intermediate-resistant Staphylococcus aureus (VISA) isolates compared with that found in paired, genetically identical, susceptible isolates. This difference in expression cannot be explained by differences in the pbpB promoter sequence. Since the factors controlling pbpB gene expression have remained largely unexplored, various conditions that might affect pbpB transcript abundance were examined In both vancomycin-susceptible and VISA strains, pbpB expression varied with the growth phase, with the highest abundance of pbpB-specific transcripts detected during mid-log phase. Interestingly, both vancomycin and oxacillin were able to induce ·pbpB transcription above a constitutive level. When vancomycin was absent, one of the three pbpB-specific transcripts that were usually faintly detected in non-VISA strains was more readily detected in VISA strains during mid-log but not stationary phase. This transcript was enhanced in non-VISA strains by vancomycin induction. Gel shift assays indicated that an increased amount of the putative transcription factor that binds to both Pl and Pl' promoter regions is present in the cytosol of vancomycin-induced cells. Neither the SigB sigma factor nor the quorum-sensing agr locus was required for growth phase-variable pbpB expression or transcriptional induction of pbpB by vancomycin or oxacillin. Also, MecI, MecR1, BlaI, and BlaR1, regulatory proteins that mediate β - lactam-inducible expression of mecA and β -lactamase, were not required for antibiotic induction of pbpB transcription. These data support the idea that pbpB expression is modulated by a trans-acting factor in response to the presence of the cell wall-active antibiotics vancomycin and oxacillin.

REFERENCE COUNT:

51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 15 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2002:869046 CAPLUS

DOCUMENT NUMBER:

137:363038

TITLE:

Antimicrobial cyclic peptides, compositions containing

them, and screening methods

INVENTOR(S):

Ghadiri, M. Reza; Kim, Hui-Sun; Fernandez-Lopez, Sara;

Wilcoxen, Keith

PATENT ASSIGNEE(S):

The Scripps Research Institute, USA

SOURCE:

PCT Int. Appl., 240 pp.

DOCUMENT TYPE:

CODEN: PIXXD2 Patent

LANGUAGE:

English

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FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
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PATENT NO.
                          KIND DATE
                                                   APPLICATION NO. DATE
                          Α2
      WO 2002090503
                                 20021114
                                                  WO 2002-US14329 20020506
          W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
               CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
               GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
               LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
               PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
               UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
               TJ, TM
          RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
               BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                          A2
                                                   WO 2003-US14240 20030506
      WO 2003093300
                                20031113
              AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
               CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
                        PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ,
               PH, PL,
               TZ, UA,
               MD, RU, TJ, TM
          RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
               CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
               NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
               GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.:
                                                US 2001-288990P P 20010504
                                                WO 2002-US14329 A 20020506
```

AB The invention provides antimicrobial agents and compns. that include cyclic peptides having an amino sequence of alternating D-and $L-\alpha$ -amino acids. Alternatively, the cyclic peptides are made from β-amino acids. Methods for identifying and evaluating antimicrobial cyclic peptides are also provided.

L76 ANSWER 16 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2002:676289 CAPLUS

DOCUMENT NUMBER:

137:211942

TITLE:

Drug design against drug resistant mutants using

directed evolution and target protein

conformation changes

INVENTOR(S):

Stevens, Raymond C.; Orencia, Maria C.; Yoon, Jun S.; Hanson, Michael A.

PATENT ASSIGNEE(S):

The Scripps Research Institute, USA

SOURCE: PCT Int. Appl., 82 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.		KIND DATE				A	PPLI	CATI	ο.	DATE					
WO 2002068	A:	_	2002			WO 2002-US6238 20020227									
W: AE CC GM LS		AL, CU, HU, LU,	AM, CZ, ID, LV,	AT, DE, IL, MA,	AU, DK, IN, MD,	DM, IS, MG,	DZ, JP, MK,	EC, KE, MN,	EE, KG, MW,	ES, KP, MX,	FI, KR, MZ,	GB, KZ, NO,	GD, LC, NZ,	GE, LK, OM,	GH, LR, PH,

```
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
             TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
             CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.:
                                         US 2001-272248P P 20010228
AB The present invention provides methods for identifying new drugs and
     potential inhibitors and modulators of drug-resistant variants of a target
     protein of a drug of interest. A drug-resistant variant according to the
     invention has at least one mutation resulting in a structural change, an
     activity change or a stability change as compared to the target protein.
     Such variants would include natural variants such as those encountered in
     the clinic, but preferably variants are selected by directed evolution
     methodol. The present invention relates to methods for designing new
     drugs useful against drug-resistant bacterial cells, viruses, mammalian
     cells and the like. The method involves identifying a target protein of the drug, selecting for drug-resistant variants that have an altered
     target protein (variant protein) by directed evolution, determining the three
     dimensional structure of the target and variant proteins and designing a
     new drug that can be effective against at least one drug-resistant
     variant. The present invention can be used to predict future mutations
     that lead to drug resistance and the type of drugs that are effective to
     combat such resistance.
L76 ANSWER 17 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:
                         2002:71893 CAPLUS
DOCUMENT NUMBER:
                          136:129034
TITLE:
                         Antimicrobial sulfonamide derivatives of lipopeptide
                         antibiotics
INVENTOR(S):
                         Curran, William V.; Leese, Richard A.; Jarolmen,
                         Howard; Borders, Donald B.
                         Intrabiotics Pharmaceuticals, Inc., USA
PATENT ASSIGNEE(S):
                         PCT Int. Appl., 67 pp.
SOURCE:
                         CODEN: PIXXD2
DOCUMENT TYPE:
                          Patent
LANGUAGE:
                          English
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
     PATENT NO.
                     KIND DATE
                                           APPLICATION NO. DATE
                            -----
     -----
                                           _____
                                          WO 2001-US22352 20010717
     WO 2002005837
                      A1 20020124
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
             HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
             LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO,
             RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN,
             YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                                        EP 2001-957162 20010717
                      A1 20030521
             AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
PRIORITY APPLN. INFO.:
                                         US 2000-219059P P 20000717
                                         US 2000-220950P P 20000726
                                         US 2001-760328
                                                          A 20010112
                                         WO 2001-US22352 W 20010717
OTHER SOURCE(S):
                         MARPAT 136:129034
```

The invention provides antimicrobial sulfonamide derivs. of lipopeptide antibiotics, pharmaceutical compns. of antimicrobial sulfonamide derivs.,

Mitra 10/032,950 Page 18

methods for making antimicrobial sulfonamide derivs., methods for inhibiting microbial growth with antimicrobial sulfonamide derivs., and methods for treating or preventing microbial infections in a subject with antimicrobial sulfonamide derivs. Antimicrobial sulfonamide derivs. are generally an amino core antibiotic that has been further modified with a lipophilic sulfonyl group.

REFERENCE COUNT:

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 18 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2002:907161 CAPLUS

DOCUMENT NUMBER:

138:13500

TITLE:

Superantigen-glycolipid conjugates loaded onto antigen

presening cells for adoptive immunotherapy of

neoplastic and infectious diseases

INVENTOR(S):

Terman, David S.

PATENT ASSIGNEE(S):

USA

SOURCE:

U.S. Pat. Appl. Publ., 167 pp.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE _____ US 2001-870759 20010530 A1 US 2002177551 20021128 US 2000-208128P P 20000531 PRIORITY APPLN. INFO.:

The present invention comprises compns. and methods for treating a tumor or neoplastic disease in a host, The methods employ conjugates comprising superantigen polypeptides, nucleic acids with other structures that preferentially bind to tumor cells and are capable of inducing apoptosis. Also provided are superantigen-glycolipid conjugates and vesicles that are loaded onto antigen presenting cells to activate both T cells and NKT cells. Cell-based vaccines comprise tumor cells engineered to express a superantigen along with glycolipids products which, when expressed, render the cells capable of eliciting an effective anti-tumor immune response in a mammal into which these cells are introduced. Included among these compns. are tumor cells, hybrid cells of tumor cells and accessory cells, preferably dendritic cells. Also provided are tumoricidal T cells and NKT cells devoid of inhibitory receptors or inhibitory signaling motifs which are hyperresponsive to the the above compns. and lipid-based tumor associated antigens that can be administered for adoptive immunotherapy of cancer and infectious diseases.

L76 ANSWER 19 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2002:874013 CAPLUS

DOCUMENT NUMBER:

138:106988

TITLE:

Synthesis of Novel Nocathiacin-Class Antibiotics. Condensation of Glycolaldehyde with Primary Amides and

Tandem Reductive Amination of Amadori-Rearranged

2-Oxoethyl Intermediates.

AUTHOR(S):

Hrnciar, Peter; Ueda, Yasutsugu; Huang, Stella; Leet,

John E.; Bronson, Joanne J.

CORPORATE SOURCE:

Pharmaceutical Research Institute, Bristol-Myers

Squibb Co., Wallingford, CT, 06492, USA

SOURCE:

Journal of Organic Chemistry (2002), 67(25), 8789-8793

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

```
OTHER SOURCE(S):
                         CASREACT 138:106988
    Nocathiacin I, I [R = NHC(:CH2)CONH2], and nocathiacin IV, I (R = NH2),
     are novel indole-containing thiazolyl cyclic peptide antibiotics, which
     exhibit potent activity against key Gram-pos. bacterial pathogens,
     including multi drug-resistant Staphylococcus aureus, Streptococcus
     pneumoniae, and Enterococcus faecium. New nocathiacins I (R =
     NHCH2CH2NR1R2; NR1R2 = morpholine; R1 = R2 = CH2CH2OH; R1 = Et, R2 =
     CH2CH2OH; R1 = Me, R2 = CH2CH2OH; R1 = R2 = Et; R1 = Et, R2 = CH2CO2H)
     were prepared from nocathiacin IV by condensation with glycolaldehyde dimer
     followed by tandem reductive amination of the intermediate with NHR1R2.
     This transformation readily tolerated the complex architecture of
     nocathiacin IV and allowed selective incorporation of water-solubilizing
     groups to the primary amide in nocathiacin IV without needing the presence
     of protecting groups.
REFERENCE COUNT:
                               THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
L76 ANSWER 20 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
                         2002:853427 CAPLUS
ACCESSION NUMBER:
DOCUMENT NUMBER:
                         138:304509
TITLE:
                         The synthesis of a novel binaphthyl-based cyclic
                         peptoid with anti-bacterial activity
                         Bremner, John B.; Coates, Jonathan A.; Coghlan, Daniel
AUTHOR(S):
                         R.; David, Dorothy M.; Keller, Paul A.; Pyne, Stephen
                         Department of Chemistry, University of Wollongong,
CORPORATE SOURCE:
                         Wollongong, 2522, Australia
                         New Journal of Chemistry (2002), 26(11), 1549-1551
SOURCE:
                         CODEN: NJCHE5; ISSN: 1144-0546
PUBLISHER:
                         Royal Society of Chemistry
DOCUMENT TYPE:
                         Journal
LANGUAGE:
                         English
OTHER SOURCE(S):
                         CASREACT 138:304509
     The novel cyclic peptoid I, based upon a 1,1'-binaphthyl scaffold and a
     bridging tripeptide moiety, was synthesized utilizing a ring-closing
     metathesis reaction. The individual major and minor diastereomers of
     compound I were shown to have promising anti-bacterial activity against
     Staphylococcus aureus with inhibition of microbial growth at 17 \muL-1m
     (MIC) and 31 \mug ml-1, resp.
REFERENCE COUNT:
                         25
                               THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
L76 ANSWER 21 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:
                         2002:287801 CAPLUS
                         137:185805
DOCUMENT NUMBER:
TITLE:
                         Synthesis and evaluation of vancomycin and vancomycin
                         aglycon analogues that bear modifications in the
                         residue 3 asparagine
McAtee, J. Jeffrey; Castle, Steven L.; Jin, Qing;
AUTHOR(S):
                         Boger, Dale L.
                         Department of Chemistry and The Skaggs Institute for
CORPORATE SOURCE:
                         Chemical Biology, The Scripps Research Institute, La
                         Jolla, CA, 92037, USA
SOURCE:
                         Bioorganic & Medicinal Chemistry Letters (2002),
                         12(9), 1319-1322
                         CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER:
                         Elsevier Science Ltd.
DOCUMENT TYPE:
                         Journal
LANGUAGE:
                         English
                         CASREACT 137:185805
OTHER SOURCE(S):
```

The synthesis and biol. evaluation of a set of residue 3 analogs of

vancomycin and its aglycon are described. These investigations follow from the promising biol. activity of a protected and synthetically modified vancomycin aglycon analog in which the asparagine side chain was modified to possess a nitrile, rather than a carboxamide. Although this modification typically was detrimental to antimicrobial activity, hydrophobic vancomycin aglycon analogs that lack a lipid anchor as well as the disaccharide are detailed that exhibit unusual potency against VanB, but not VanA, resistant bacteria.

REFERENCE COUNT:

22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 22 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2001:152655 CAPLUS

DOCUMENT NUMBER:

134:193744

TITLE:

Preparation of macrocyclic compounds for treating

bacterial infections

INVENTOR(S):

Jefferson, Elizabeth; Swayze, Eric Edward

Isis Pharmaceuticals, Inc., USA

SOURCE:

PCT Int. Appl., 98 pp. CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT ASSIGNEE(S):

```
APPLICATION NO.
                             DATE
     PATENT NO.
                       KIND
                                             WO 2000-US22871 20000818
                             20010301
     WO 2001014346
                      A1
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
             YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                            US 1999-378529
                                                               19990820
     US 6660832
                        В1
                             20031209
                                          US 1999-378529
                                                           A 19990820
PRIORITY APPLN. INFO.:
                          MARPAT 134:193744
OTHER SOURCE(S):
     Macrocyclic compds. I [X = O, NH, S; R1-R4 = H, amino or an amino acid
```

AB Macrocyclic compds. I [X = O, NH, S; R1-R4 = H, amino or an amino acid side chain; R5 = H, OH, CO2H, halo, SH, cyano, amino, an electron withdrawing group, alkoxy, C(O)NH2, -C(O)NHR6, C(O)-(amino acid)1-4, -C(O)OR6, CH2OH, -CH2OR6, NHC(O)R7, or -NH-(amino acid)1-4; R6, R7 = alkyl (optionally substituted with OH, halogen, CO2H, cyano, amino, amidine, guanidine, urea, or a nucleobase) or aryl, aralkyl, heterocyclyl, or heterocyclyalkyl optionally substituted with OH, halogen, CO2H, oxo, cyano, amino, amidine, guanidine, or urea (the substituent may also be C1-4 alkyl in the case of R7)] are useful for therapeutic and prophylactic treatment of bacterial infection in mammals. Solid phase synthetic procedures are given for the synthesis of a library of macrocyclic compds. using KanTM reactors. Claimed compds. include macrocycle II. Min. inhibitory concentration and coupled bacterial transcription/translation data are tabulated.

L76 ANSWER 23 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2001:225071 CAPLUS

DOCUMENT NUMBER:

135:16454

TITLE:

Pseudodestruxins A and B: New Cyclic Depsipeptides from the Coprophilous Fungus Nigrosabulum globosum Che, Yongsheng; Swenson, Dale C.; Gloer, James B.;

AUTHOR(S):

Mitra 10/032,950

Koster, Brenda; Malloch, David

CORPORATE SOURCE: Department of Chemistry, University of Iowa, Iowa

City, IA, 52242, USA

SOURCE: Journal of Natural Products (2001), 64(5), 555-558

CODEN: JNPRDF; ISSN: 0163-3864

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

AB Pseudodestruxins A (I) and B (II), two new cyclic peptides, have been isolated from cultures of the coprophilous fungus Nigrosabulum globosum. The structure of pseudodestruxin A was elucidated using 2D NMR techniques and confirmed by single-crystal X-ray diffraction anal. The structure of pseudodestruxin B was assigned by comparing its NMR and FABMS data with those of pseudodestruxin A. The known compds. ascochlorin and 5-chlorocollectorin B were also isolated from N. globosum. Although Pseudodestruxins A and B display antibacterial effects, ascochlorin was found to be responsible for the antifungal activity of the crude extract

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 24 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:297439 CAPLUS

DOCUMENT NUMBER: 130:297010

TITLE: Preparation of cyclic peptides having broad spectrum

antimicrobial activity

INVENTOR(S): Chang, Conway; Gu, Leo; Chen, Jie

PATENT ASSIGNEE(S): Intrabiotics Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 167 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PAT	ENT	NO.		KIND DATE					APPLICATION NO. DATE								
WO	9921	879		A1 19990506					W	0 19	9 7- U	S195	57	19971027			
	W:	AL,	AM,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	CA,	CN,	CU,	CZ,	EE,	GE,	GH,
		HU,	ID,	IL,	IS,	JP,	KG,	ΚP,	KR,	ΚZ,	LC,	LK,	LR,	LT,	LV,	MD,	MG,
		MK,	MÑ,	MX,	NO,	NZ,	PL,	RO,	RU,	SG,	SI,	SK,	SL,	ТJ,	TM,	TR,	TT,
		UA,	UZ,	VN,	YU,	AM,	AZ,	BY,	KG,	KZ,	MD,	RU,	ТJ,	TM			
	RW:	GH,	KE,	LS,	MW,	SD,	SZ,	UG,	ZW,	AT,	BE,	CH,	DE,	DK,	ES,	FΙ,	FR,
		GB,	GR,	IE,	IT,	LU,	MC,	NL,	PT,	SE,	BF,	ВJ,	CF,	CG,	CI,	CM,	GΑ,
							TD,										
AU 9851535				A	1	1999	0517		Α	J 19	98-5	1535		1997	1027		

PRIORITY APPLN. INFO.: WO 1997-US19557 19971027 AB The present invention provides cyclic peptides I [m = 0-2, n = 0-1, with

The present invention provides cyclic peptides I [m = 0-2, n = 0-1, with the proviso that when m = 2, n = 0; X21, X22, X24, X25, X27, X28 are each independently present or absent; X7 and X4 are either both present or both absent; X8 and X3 are either both present or both absent; X2-X5, X7, X8, X13, X14, X16-X19, X21, X22, X27, X28 independently = hydrophobic amino acid, hydrophilic amino acid, small amino acid, with provisos (i) when X2 = hydrophobic amino acid, X7, X14, X19, X21, and X28 independently = hydrophobic amino acid or small amino acid and X3, X8, X13, X18, X22 and X27 independently = hydrophilic amino acid or small amino acid and (ii) when X2 = hydrophilic amino acid X7, X14, X19, X21, and X28 independently = hydrophilic amino acid or small amino acid and X3, X8, X13, X18, X22 and X27 independently = hydrophobic amino acid or small amino acid; X23-X26 taken together = loop; Z1, Z6, Z5, Z20 independently = hydrophilic amino acid, small amino acid, cysteine-like amino acid; X9-X12 taken together = β-turn; at least one of X9-X12, X23-X26 = basic amino acid; and

wherein the peptide has net pos. charge at physiol. pH] comprising and amphiphilic antiparallel β -sheet region, a loop region, and a β-turn region having broad spectrum antimicrobial activity. The peptides exhibit improved efficacy, bioavailability and/or serum half-life as compared with non-cyclized analogs. Thus, cystine-containing cyclopeptide II inhibited Pseudomonas aeruginosa with MIC = $8 \mu g/mL$ and methicillin-resistant Staphylococcus aureus with MIC = 2 μ g/mL compared to 32 μ g/mL against both bacteria for the uncyclized peptide. In addition, II showed increased activities after 15 min and 120 min relative to the uncyclized peptide.

REFERENCE COUNT:

THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 25 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: DOCUMENT NUMBER:

1998:719131 CAPLUS

130:4085

TTTLE:

Preparation of peptides with bactericidal activity and endotoxin neutralizing activity for gram negative

INVENTOR(S):

Gray, Beulah H.; Haseman, Judith R.; Mayo, Kevin H.

Regents of the University of Minnesota, USA

PATENT ASSIGNEE(S): SOURCE:

U.S., 56 pp., Cont.-in-part of U.S. Ser. No. 218,026.

CODEN: USXXAM

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PATENT 1	10.	KIND	DATE	AP	PLICATI	ON NO.	DATE			
	US 58308 US 57863 WO 97443	324	 A A A2	19980728	US	1996-6 1994-2 1997-U	18026	19960524 19940324 19970523			
	W:	CA, J		E, DK, ES,		GB, GR,	IE, IT,	LU, MC,	NL,	PT,	SE
		DE, F	A2 R, GB, I	T, SE		1997-9		19970523 19970523			
	US 64863	125		20000912 20021126 ·20030814	US	1997-3 1999-1 2002-3	94296	19991015 20021120			
PRIOF	RITY APP			20030014	US 19	94-2180	26 A2	19940324 19960524			
					WO 19	96-6714 97-US89 99-1942	44 W	19960627 19970523 19991015			

The invention provides biol. active peptides derived from or corresponding AB to regions of a bactericidal permeability increasing factor (B/PI). The peptides are preferably about 10 to 100 amino acids long and have bactericidal and/or endotoxin neutralizing activity. The peptides can be prepared by automated protein synthesis or by recombinant DNA methods. The peptides are useful in methods to treat and prevent bacterial infection in the body and on surfaces. The peptides are also useful to treat endotoxin shock and have endotoxin neutralizing activity. 35

REFERENCE COUNT:

THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 26 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

1998:508906 CAPLUS

DOCUMENT NUMBER:

129:156917

TITLE:

Synthetic peptides with bactericidal activity and endotoxin neutralizing activity for gram negative bacteria and methods for their use

Gray, Beulah; Haseman, Judith R.; Mayo, Kevin INVENTOR(S): Regents of the University of Minnesota, USA PATENT ASSIGNEE(S):

SOURCE: U.S., 46 pp.

CODEN: USXXAM DOCUMENT TYPE: Patent

English LANGUAGE: FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5786324	А	19980728	US 1994-218026	19940324
US 5830860	A	19981103	US 1996-653632	19960524
PRIORITY APPLN. IN	FO.:		US 1994÷218026 A2	19940324

The invention provides biol. active peptides derived from or corresponding AΒ to regions of a bactericidal permeability increasing factor (B/PI). The peptides are about 10 to 100 amino acids long and have bactericidal and/or endotoxin neutralizing activity. The peptides can be prepared by automated DNA synthesis or by recombinant DNA methods. The peptides are useful in methods to treat and prevent bacterial infection in the body and on surfaces. The peptides are also useful to treat endotoxin shock.

REFERENCE COUNT: 76 THERE ARE 76 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 27 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

1997:414155 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 127:31334

TITLE: Kawaguchipeptin B, an antibacterial cyclic

undecapeptide from the cyanobacterium Microcystis

aeruginosa

AUTHOR(S): Ishida, Keishi; Matsuda, Hisashi; Murakami, Masahiro;

Yamaguchi, Katsumi

Laboratory of Marine Biochemistry Graduate School of CORPORATE SOURCE:

Agricultural Life Sciences, University of Tokyo,

Tokyo, 113, Japan

Journal of Natural Products (1997), 60(7), 724-726 SOURCE:

CODEN: JNPRDF; ISSN: 0163-3864

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

Kawaguchipeptin B, an antibacterial cyclic undecapeptide, was isolated from the cultured cyanobacterium Microcystis aeruginosa (NIES-88). Its structure was elucidated as (I) on the basis of 2D NMR data and chemical degradation I inhibited the growth of the Gram-pos. bacterium Staphylococcus aureus at a concentration of $1 \mu g/mL$ (MIC).

BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN L76 ANSWER 28 OF 34

2004:22398 BIOSIS ACCESSION NUMBER: DOCUMENT NUMBER: PREV200400009801

TITLE: An engineered multidomain bactericidal

peptide as a model for targeted antibiotics against

specific bacteria.

Qiu, Xiao-Qing; Wang, He; Lu, Xiao-Fong; Zhang, Jie; Li, AUTHOR(S):

Sheng-Fu; Cheng, Gang; Wan, Lin; Yang, Li; Zuo, Jun-Yong; Zhou, Yu-Qi; Wang, Hai-Yun; Cheng, Xin; Zhang; Su-Hua; Ou, Zheng-Rong; Zhong, Zi-Cheng; Cheng, Jing-Qiu; Li, You-Ping;

Wu, George Y. [Reprint Author]

CORPORATE SOURCE: Division of Gastroenterology-Hepatology, University of

Connecticut Health Center, Farmington, CT, 06030-1845, USA

qiu@mrsa.com.cn; wu@nso.uchc.edu

SOURCE:

Nature Biotechnology, (December 2003) Vol. 21, No. 12, pp.

1480-1485. print.

ISSN: 1087-0156 (ISSN print).

DOCUMENT TYPE:

Article Enalish

OTHER SOURCE:

DDBJ-AF001782; EMBL-AF001782; GenBank-AF001782; DDBJ-AF001783; EMBL-AF001783; GenBank-AF001783;

DDBJ-U85097; EMBL-U85097; GenBank-U85097

ENTRY DATE:

LANGUAGE:

Entered STN: 24 Dec 2003

Last Updated on STN: 24 Dec 2003

We constructed a peptide consisting of a staphylococcal AgrDl pheromone AB fused to the channel-forming domain of colicin la and named it pheromonicin. This fusion peptide had bactericidal effects against methicillin-sensitive and methicillin-resistant Staphylococcus aureus (MSSA and MRSA, respectively), but not against Staphylococcus epidermidis or Streptococcus pneumoniae. Growth rates, vital staining and colony forming unit (CFU) counts showed

that pheromonicin did not merely suppress growth but killed S. aureus cells. The specificity of pheromonicin was shown by the

absence of bactericidal effects against an accessory

gene regulator (agr) locus knockout of

S. aureus, and a dose-dependent inhibition of the bactericidal effects of pheromonicin by competition with

corresponding free AgrD pheromone. In vivo, all pheromonicin-treated mice survived administration of MRSA that was lethal to controls. No toxicity was detectable in human liver or renal cells in culture, or in livers, kidneys or spleens of pheromonicin-treated mice. The results suggest that these types of chimeric peptides may be of value as antibiotics against specific bacterial infections.

L76 ANSWER 29 OF 34 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER:

2003-606005 [57] WPIDS

CROSS REFERENCE:

1996-209319 [21]; 1998-018426 [02]; 2003-074097 [07]

DOC. NO. CPI:

C2003-165005

TITLE:

New purified peptide that inhibits ${\tt agr}{\tt -rnaIII}$

transcription in Staphylococcus aureus

, useful for treating or preventing a staphylococcal

infection or disease.

DERWENT CLASS:

INVENTOR(S):

BEAVIS, R; JI, G; NOVICK, R P

PATENT ASSIGNEE(S):

(BEAV-I) BEAVIS R; (JIGG-I) JI G; (NOVI-I) NOVICK R P

COUNTRY COUNT:

PATENT INFORMATION:

PAT	rent	NO	KIND	DATE	WEEK	LA	PG
US	2003	 307837	8 A1	20030424	(200357)*		 12

APPLICATION DETAILS:

PATENT NO KIND		APPLICATION	DATE
US 2003078378 A1	CIP of CIP of Cont of	US 1994-318499 US 1996-651226 US 1997-861476 US 2002-201444	19941004 19960522 19970522 20020723

FILING DETAILS:

PATENT	NO	KIND	PATENT	NO

US 2003078378 Al Cont of

US 6447786

PRIORITY APPLN. INFO: US 1997-861476 19970522; US 1994-318499 19941004; US 1996-651226 19960522; US

2002-201444 20020723

AB US2003078378 A UPAB: 20030906

NOVELTY - A purified peptide, which inhibits agr-rnaIII transcription in Staphylococcus aureus, is new. The peptide contains 6-12 amino acids in length and comprises amino acid 28 from the AgrD region of a Staphylococcibacterium, or its analogue.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (1) a peptide composition comprising the purified peptide cited above and a pharmaceutical carrier; and
- (2) treating or preventing an infection or disease caused by S. aureus in a subject comprising administering to the subject the purified peptide.

ACTIVITY - Antibacterial.

No biological data given.

MECHANISM OF ACTION - Virulence Factor Inhibitor.

USE - The purified peptides and compositions are useful for treating or preventing an infection or disease caused by a Staphylococci bacterium. ${\rm Dwg.0/4}$

L76 ANSWER 30 OF 34 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER:

2002-681366 [73] WPIDS

CROSS REFERENCE:

2002-170774 [22]

DOC. NO. CPI:

C2002-192257

TITLE:

New cyclic peptides, useful for treating Staphylococcus aureus

infections.

DERWENT CLASS:

A96 B04

INVENTOR(S):

BEAVIS, R; JI, G; MAYVILLE, P; MUIR, T W; NOVICK, R P (BEAV-I) BEAVIS R; (JIGG-I) JI G; (MAYV-I) MAYVILLE P;

PATENT ASSIGNEE(S):

(MUIR-I) MUIR T W; (NOVI-I) NOVICK R P

COUNTRY COUNT:

PATENT INFORMATION:

PAT	ENT	NO	KIND	DATE	WEEK	LA	PG
		- -					
US	2002	0774	53 A1	20020620	(200273)*		18

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20020774	53 A1 Provisional Cont of	US 1998-90402P US 1999-339511 US 2001-32950	19980624 19990624 20011227

PRIORITY APPLN. INFO: US 1998-90402P 19980624; US 1999-339511 19990624; US 2001-32950 20011227

AB US2002077453 A UPAB: 20021113

NOVELTY - A cyclic peptide is new.

DETAILED DESCRIPTION - A cyclic peptide of

formula (I) is new.

X = amino acid, amino acid analog, peptidomimetic or non-amide
isostere;

Z' = synthetic or biosynthetic amino acid;

R = O, N or C;

n = 0-10; and

= 1-10.

AΒ

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INDEPENDENT CLAIMS are included for:
          (1) a cyclic peptide of formula H2N-Xn-Z'-Xy-COOH
     (II) with a cyclic bond between Z' and COOH other than a thioester bond;
          (2) compositions comprising the peptides;
          (3) method for treating S. aureus infection
    comprises administration of the composition;
          (4) method for preparing (I).
         ACTIVITY - Antibacterial.
         MECHANISM OF ACTION - Agr response inhibitor.
          USE - The peptides are useful for treating S.
    aureus infections (claimed).
    Dwq.0/3
L76 ANSWER 31 OF 34 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
                     2002-170774 [22]
                                       WPIDS
ACCESSION NUMBER:
                     2002-681366 [73]
CROSS REFERENCE:
                     C2002-052666
DOC. NO. CPI:
                     Novel synthetic, cyclic AgrD-autoinducing
TITLE:
                     peptide for bacterial interference and for
                     treating Staphylococcus aureus
                      infection in a subject.
DERWENT CLASS:
                     B03 B04 D16
                     BEAVIS, R; JI, G; MAYVILLE, P; MUIR, T W; NOVICK, R P
INVENTOR(S):
                     (UYNY) UNIV NEW YORK STATE; (UYRQ) UNIV ROCKEFELLER
PATENT ASSIGNEE(S):
COUNTRY COUNT:
                      1
PATENT INFORMATION:
     PATENT NO
                KIND DATE
                _____'
    US 6337385
                B1 20020108 (200222)*
APPLICATION DETAILS:
                                                       DATE
                                      APPLICATION
    PATENT NO KIND
                                      US 1998-90402P
                                                       19980624
     US 6337385 B1 Provisional
                                      US 1999-339511
                                                       19990624
PRIORITY APPLN. INFO: US 1998-90402P 19980624; US 1999-339511
                      19990624
         6337385 B UPAB: 20021118
    NOVELTY - A synthetic cyclic peptide (I), in
     particular a AgrD-autoinducing peptide, where AgrD is a secreted
     agr-encoded peptide, where the agr locus controls the
     synthesis of virulence factor and other extracellular proteins responsible
     for pathogenicity in Staphylococcus aureus, is new.
          DETAILED DESCRIPTION - A synthetic cyclic peptide
     (I) with formula (A) or NH2-X(n)-Z-X(y)-COOH, and a cyclic bond between Z
     residue and COOH other than a thioester bond, in particular a
     AgrD-autoinducing peptide, where AgrD is a secreted agr-encoded
     peptide, where the agr locus controls the synthesis of virulence
     factor and other extracellular proteins responsible for pathogenicity in
     Staphylococcus aureus, is new.
          X = an amino acid, its analog, peptidomimetic, or nonamide isostere;
          Z' = synthetic or biosynthetic amino acid;
          R = oxygen, nitrogen, sulfur or carbon;
     n = 0-10; or
     y = 1-10.
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INDEPENDENT CLAIMS are also included for the following:

(1) a pharmaceutical composition (II) comprising (I), and a carrier; and

(2) preparing (I).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Inhibitor of Agr response. Synthetic approach was used to prepare AgrD peptides from Staphylococcus aureus group I and group II strains. The biological activity of the synthetic AgrD peptides was assayed using cultured ${\bf S}$. aureus strains containing a beta -lactamase reporter gene fused to agrP3 promoter. This allowed activation or inhibition of the agr response to be monitored spectrophotometrically using a calorimetric beta -lactamase activity assay. As with their naturally derived counterparts, synthetic AgrD peptide was found to activate the agr response only within their own S. aureus class, and inhibit the agr response only in S. aureus strains from the other two classes.

USE - (I) is useful for bacterial interference, especially for treating S. aureus infection in a subject. Dwg.0/3

L76 ANSWER 32 OF 34 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER:

2000-147202 [13] WPIDS

DOC. NO. CPI:

C2000-046059

TITLE:

New cyclic peptides for treating

infections with Staphylococcus aureus

DERWENT CLASS:

A96 B04

INVENTOR(S):

BEAVIS, R; JI, G; MAYVILLE, P; MUIR, T W; NOVICK, R P

(UYNY) UNIV NEW YORK STATE; (UYRQ) UNIV ROCKEFELLER PATENT ASSIGNEE(S):

COUNTRY COUNT:

87

PATENT INFORMATION:

KIND DATE WEEK PATENT NO _____

WO 9967286 A2 19991229 (200013)* EN 36 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL

OA PT SD SE SL SZ UG ZW

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR

TT UA UG US UZ VN YU ZA ZW

A 20000110 (200025) AU 9947238

A2 20010411 (200121) EN EP 1090034

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

JP 2002519304 W 20020702 (200246)

APPLICATION DETAILS:

PA'	TENT NO K	IND	API	PLICATION	DATE
AU	9967286 9947238 1090034	A2 A A2	AU EP	1999-US14562 1999-47238 1999-930780 1999-US14562	19990624 19990624 19990624 19990624
JP	2002519304	W		1999-US14562 2000 - 555937	19990624 19990624

FILING DETAILS:

PATENT NO PATENT NO KIND

AU 9947238 A Based on WO 9967286 EP 1090034 A2 Based on WO 9967286 JP 2002519304 W Based on WO 9967286

PRIORITY APPLN. INFO: US 1998-103438 19980624

AB WO 9967286 A UPAB: 20000313

NOVELTY - Cyclic peptides (I) derived from AgrD peptides of Staphylococcus aureus are new.

DETAILED DESCRIPTION - (I) are:

(i) of formula (Ia), or

(ii) (Ib), comprise the sequence NH2-Xn-Z-Xy-COOH with a cyclic bond, other than thioester, between Z and COOH:

X = amino acid (aa), aa analog, peptidomimetic or non-amide isostere;

Z = synthetic or natural aa;

R = oxygen, nitrogen or carbon;

n = 0-10;y = 1-10

INDEPENDENT CLAIMS are also included for the following:

(a) composition containing (I) and a carrier; and

(b) method for production of (I).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - (I) inhibits the agr response (associated with release of virulence factors) of S. aureus. Normally an AgrD peptide is produced by S. aureus that (i) activates the agr response in strains of a single group but (ii) interferes with this response in strains of different groups.

USE - (I) are used to treat infections by S. aureus

ADVANTAGE - (I), which mimic the AgrD peptides but have the thiololactone bond replaced by a different cyclic bond, lack the agr-inducing activity of the native peptide for specific bacterial strains, but retains the inhibitory activity against other strains. (I) can be produced in excellent yield by selective intermolecular cyclization/cleavage reaction of the resin-bound, unprotected, linear analog.

Dwg.0/3

L76 ANSWER 33 OF 34 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER:

1999-370885 [31] WPIDS

DOC. NO. CPI:

C1999-109456

TITLE:

Cyclic antibacterial peptides

for treating and preventing bacterial infection in humans

and animals.

DERWENT CLASS:

B04 B07 C03 D22

INVENTOR(S):

AFFAS, Z M; BYCROFT, B W; CHAN, W C; MCDOWELL, P W;

STEWART, G S A B; WILLIAMS, P

PATENT ASSIGNEE(S):

(UYNO-N) UNIV NOTTINGHAM

COUNTRY COUNT:

83

PATENT INFORMATION:

PATENT NO KIND DATE WEEK LA PG

WO 9926968 A1 19990603 (199931) * EN 32

'RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL

OA PT SD SE SZ UG ZW

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZŴ

A 19990615 (199944) AU 9912490

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9926968	Δ1	WO 1998-GB3497	19981124
AU 9912490	A .	AU 1999-12490	19981124

FILING DETAILS:

PATENT NO	KIND	PATENT NO
		_
AU 9912490	A Based or	WO 9926968

PRIORITY APPLN. INFO: GB 1997-24859 19971126

WO 9926968 A UPAB: 20000516

NOVELTY - Cyclic peptides (I), their acid or base addition salts and prodrugs are new.

DETAILED DESCRIPTION - (I) have the formula:

A, B, E and D = residues of natural or synthetic amino acids (aa), optionally substituted;

m = 0-5;

= 1-5; ;

X = sulfur, oxygen or NR3;

R1, R2 and R3 = hydrogen, 1-6C alkyl, acyl or alkoxycarbonyl, or,

where m = 0, R1 and R2 may complete a heterocyclic ring;

each Z = residue as defined for A;

the peptide bonds in (I) are optionally substituted on nitrogen by 1-6C alkyl.

When n = 1, X = sulfur, and R1 = R2 = hydrogen and when:

- (i) ABED = Asp-Phe-Ile-Met respectively, (Z)m is not H-Tyr-Ser-Thr;
- (ii) ABED = Asn-Ala-Tyr-Phe respectively, (Z)m is not H-Asp-Ile;
- (iii) ABED = Asp-Phe-Leu-Leu respectively, (Z)m is not H-Tyr-Ile-Asn;

(iv) ABED = Ser-Ser-Leu-Phe respectively, (Z)m is not H-Gly-Val-Asn-Ala.

INDEPENDENT CLAIMS are included for the following:

- (1) articles coated and/or impregnated with (I); and
- (2) compounds of formula (II):

where:

- (i) AlBlE1D1 = Asp-Phe-Ile-Met respectively, Y is H-Tyr-Ser-Thr;
- (ii) A1B1E1D1 = Asn-Ala-Tyr-Phe respectively, Y is H-Asp-Ile;
- (iii) AlB1E1D1 = Asp-Phe-Leu-Leu respectively, Y is H-Tyr-Ile-Asn; or (iv) AlB1E1D1 = Ser-Ser-Leu-Phe respectively, Y is H-Gly-Val-Asn-Ala. ACTIVITY - Antibacterial.

MECHANISM OF ACTION - (I) are modulators of the agr response; agonists of this response antagonize early stages of virulence, specifically production of cell wall proteins (so are preferred for prophylaxis), while antagonists interfere with the later stages of virulence, specifically secretion of exotoxin (so are preferred for treatment). Staphylococcus aureus KH1187A was grown in nutrient broth containing 1.92 mu g/ml of the peptide ZA78, cyclo(Ac-Cys-Asp-Phe-Ile-Met), then the culture supernatant analyzed by electrophoresis and staining with Coomassie Blue. The band for toxic shock syndrome toxin-1, clearly visible in a control culture grown in absence of ZA78, was not detectable.

USE - (I) and (II) are used to treat or prevent bacterial infections in humans and animals, also for incorporation into medical articles, e.g tampons (to prevent toxic shock syndrome), prostheses and wound dressings. Particularly they are active against staphylococci, specifically

Staphylococcus aureus but also coagulase-negative S.

epidermidis, implicated in infection of medical implants.

ADVANTAGE - Some (I) are active against many different bacterial

strains. Dwg.0/0

L76 ANSWER 34 OF 34

WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

ACCESSION NUMBER:

1997-225834 [20] WPIDS

DOC. NO. CPI:

C1997-072303

TITLE:

Treatment of bacterial infections in mammals - by administering an inhibitor of a global regulator of

pathogenesis genes.

DERWENT CLASS:

INVENTOR(S):

BAO, Y; BOGGS, A; CONTAG, P R; FEDERSPIEL, N A; HEBERT,

A; HECKER, S; MALOUIN, F

PATENT ASSIGNEE(S):

(MICR-N) MICROCIDE PHARM INC

COUNTRY COUNT:

PATENT INFORMATION:

	PATENT	NO	KIND	DATE	WEEK	LA	PG
1							

B05

✓ WO 9711690

A2 19970403 (199720) * EN 138

RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

W: AU CA CU DE IL JP MX NZ

AU 9671686

A 19970417 (199732)

WO 9711690

A3 19970912 (199749)

US 6020121

A 20000201 (200013)

APPLICATION DETAILS:

PATENT NO KIND			API	PLICATION	DATE	
AU WO	9711690 9671686 9711690 6020121	A A3	Provisional	AU WO	1996-US15435 1996-71686 1996-US15435 1995-4626P	19960925 19960925 19960925 19950929
	•			US	1996-672215	19960625

FILING DETAILS:

PATENT 1	NO KIN	ID		PAT	ENT	NO
					- -	
AU 96716	686 A	Based	on	WO	9711	690

PRIORITY APPLN. INFO: US 1996-672215

19960625; US 1995-4626P

19950929

9711690 A UPAB: 19970516 AB

> Treatment or prophylaxis of a bacterial infection in a mammal, by admin. of a cpd. comprising an inhibitor of a global regulator (IGR) of pathogenesis genes (PG) , is new. Also claimed is a method of treating a bacterial infection by administering an inhibitor of one or more pathogenesis factors modulated by agr, sar, sae or xpr. Also new is a method of screening for an IGR of PG, by determining whether a test cpd. alters the level of activity of that IGR. Also claimed is a method for making an antibacterial agent (ABA), comprising screening for the ABA by measuring the ability of ABA to alter the level of activity of global regulator of PG; and synthesising ABA in sufficient amount for admin. to the patient. Also claimed are pharmaceutical compsns. containing an inhibitor of a global pathogene regulator and a carrier.

USE - The cpds., termed antipathogenics, are of use in both human and veterinary infections. They inhibit the naturally occurring,

growth-dependent induction of the P3-driven RNAIII and those downstream virulence factors under its influence. Treatment with the cpds. may have any of the following effects: attenuating host inflammatory response, decreasing load of bacterial toxins, disfavouring colonisation of the host, or aiding clearance of infection by the host, and potentiation of the effect of traditional drugs, either by weakening the bacteria or relocating them to a drug or host factor accessible category.

ADVANTAGE - The method represents a new approach to bacterial infections, in contrast to prior art bactericidal, bacteriostatic, or antibiotic cpds., which either kill the microbes or inhibit their growth. The new method targets bacterial pathogenesis, or virulence factors, reducing or eliminating expression of exoproteins, toxins, or other pathogenic factors, associated with specific genes. Even resistant strains of bacteria, partic. staphylococci, most notably S. aureus, which have developed resistance to methicillin or are multi-drug resistant, can be regulated by the cpds. to alter the course of an infection.

Dwg.0/20

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5090	5354	6785	2974	2665	918	2918	2919	6339	1317	5090	5354	Y6785	B9262	M5090	5354	Y6785	M5090	5354	6785	M5090	5090	5354	P5354	6785	Y6785	B8463	B8463	B0715	5100	832	0716	100	5090	AAM50899	5354
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WPI; 2000-147202/13.	Muir TW, Mayville P, Novick RP, Ji G, Beavis R;	(UYNY) UNIV NEW YORK STATE.	(UYRQ) UNIV ROCKEFELLER.		24-JUN-1998; 98US-0103438.		24-JUN-1999; 99WO-US14562.		29-DEC-1999. ·		WO9967286-A2.		Staphylococcus aureus.		or.	Staphylococcus aureus infection; treatment; AgrD; agr response;	1	Staphylococcus aureus AgrDII derived peptide sequence.		25-APR-2000 (first entry)		AAY67859;		AAY67859 standard; peptide; 9 AA.	7859	.H. 1

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New cyclic peptides for treating infections with Staphylococcus aureus

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RESULT 2
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                                                                                                                              This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                               Sequence
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The present sequence is that of a protected peptide used in an example of the preparation of novel synthetic cyclic peptides of the invention (see AMA50899-906). The peptide corresponds to the Staphylococcus aureus AgrDII sequence with a Cys5 to Ser mutation (lactone). It was synthesised on a Wang-resin using an Fmoc N-alpha protection strategy. Following chain assembly, the peptide was cleaved from the support and the Ser-5 residue deprotected by treatment with a trifluoroacetic acid.anisole:water mixture (90:5:5) for 4 hr. The partially protected peptide-alpha carboxylates were then dissolved in DMF and treated with PyBOP and a catalytic amount of dimethylaminopyridine. Cyclization was complete after 2 hr. The remaining protecting groups were then removed by treatment with HF and the peptide purified by HPUC. The cyclic peptide is capable of inhibiting the agr response of
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The present sequence is that of a novel synthetic AgrD2 linear thioester peptide. The peptide is derived from the cyclic AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrP3 promoter. This allowed activation or inhibition of the agr propose to be monitored spectrophotometrically. Unlike an AgrD2 thiololactone cyclic peptide (see AAMS1001), the present peptide was unable to either activate or inhibit the agr response, even
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Pred. No. 9.3e
0; Mismatches
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9.3e+05;
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                                free acid peptide. The peptide is derived from the cyclic AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assyed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrP3 promoter. This allowed activation or inhibition of the agr response to be monitored spectrophocometrically. Unlike an AgrD2 thiololactone cyclic peptide (see AAM51001), the present peptide was unable to either activate or inhibit the agr response, even when added to cultured cells at uM concentrations. The invention provides claimed cyclic peptides (see AAM50099-906 and AAM50999)

and methods for preparing them. The cyclic peptides are useful for infortion interference, especially for the treatment of S. aureus
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                                                                                                                                                                                                                                                                                                                Novel synthetic, interference and
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                          infection
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8; Conserv
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The present sequence is that of a novel synthetic AgrD2 lactone cyclic peptide in which residue 5 of the peptide is linked to residue 9 via a lactone bond. The peptide is derived from an AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrP3 promoter. This allowed activation or inhibition of the agr response to be monitored spectrophotometrically. The lactone AgrD2 peptide inhibited the agr response of group I S. aureus strains. The invention provides claimed cyclic peptides (see AMS0899-906 and AAMS0999) and methods for preparing them, especially peptides where the cyclic bond is a lactam or lactone bond. The cyclic peptides are useful for bacterial interference, cespecially for the treatment of S. aureus infection.
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peptide"
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                                    The invention relates to the use of autoinducer-2 (AI-2) agonists or antagonists for regulating activity of autoinducer-2 receptor, regulating bacterial growth and pathogenesis. Synegistic antiblotic compositions comprising inhibitors of the quorum-sensing pathway of a microorganism are also provided. Methods using such AI-2 analogues are useful for treating pathogen-associated disease states. The compounds and antibiotic compositions can be used to inhibit bacterial cell growth and/or biofilm formation on a medical device, particularly for promoting growth of skin graft replacements used in the treatment of burns and ulcers. They may also be used to aid wound repair, and to inhibit bacterial cell growth and biofilm formation in or on products or devices used for personal hygiene. The present sequence represents a inhibitor of peptide-mediated
                                                                                                                                                                                                                                                              Use of autoinducer-2 agonists or antagonists for regulating activity autoinducer-2 receptor, regulating bacterial growth and pathogenesis.
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                          quorum sensing.
                                                                                                                                                                                                                       Disclosure; Page 33; 134pp; English
                                                                                                                                                                                                                                                   also
                                                                                                                                                                                                                                                                                                                                   Bassler BL,
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07-DEC-2000; 2000US-254398P
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                                                                                                                                                                                                                                                                                                                                   Schauder S,
                                                                                                                                                                                                                                                                                                                                                               INT
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Pred. No. 9
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                                                                                                                                                                                                                                                                                                                                   Shokat K,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  dermatological;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      regulator; cyclic.
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RESULT 9
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                                                                                                                                                                                             Query Match
Best Local s
Matches
                                                                                                                                                                                                                                                            This sequence represents a cyclic peptide derived from the Staphylococcus aureus AgrD peptide. The invention relates to AgrD derived peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                  New cyclic peptides for
                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2000-147202/13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Staphylococcus aureus infection; cyclic peptide; AgrD; agr response; virulence factor; treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S. aureus peptide #1 used for bacterial interference.
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Staphylococcus aureus infection; AgrD; agr response; treatment;
                    Staphylococcus aureus AgrDII derived peptide sequence
                                                                                         AAY67861 standard; peptide; 9 AA
                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                 Claim 9; Page 26; 37pp;
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                                             25-APR-2000
                                                                    AAY67861;
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9; Conserv
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                                                                                                                                                                                                                                           AA;
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                                             (first entry
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/label= Unknown
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Pred. No.
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                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                         DB 21; I
. 9.3e+05;
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RESULT 10
ABP53540
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Best Local S
Matches 9
                                                                                                                                                                                                                                                                                                                                                                                                  poptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibite the agr response, which is normally associated with the release of virulence factors of staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              virulence factor.
                                                                                                                                                                Cyclic peptide
                                                                                                                                                                                       13-DEC-2002
                                                                                                                                                                                                             ABP53540
                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New cyclic peptides for treating infections with Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2000-147202/13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Muir TW,
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                                                                                                          Synthetic
                                                                                                                               Cyclic peptide; Staphylococcus aureus; infection; antibacterial; agr response inhibitor.
                                                                                                                                                                                                                                 ABP53540 standard; peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Examples; Page 22; 37pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (UYNQ ) UNIV ROCKEFELLER (UYNY ) UNIV NEW YORK ST
                     20-JUN-2002.
                                                                          Misc-difference
                                          JS2002077453-A1
                                                                                                                                                                                                                                                                                                                                    Similarity
9; Conserv
                                                                                                                                                                                                                                                                                                       GVNAXSSLF
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                                                                                                                                                                                                                                                                                                                                                                                9 AA;
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ilarity 100.0%;
Conservative (
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                                                                                                                                                                 SEQ ID NO:1
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/label= Unknown
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                                                                                     Location/Qualifiers
                                                                /note= "any amino acid"
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9.3e+05;
hes 0;
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27-DEC-2001; 2001US-0032950

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RESULT 11
AAM50899
ID AAM50
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABP53540 to ABP53547 represent cyclic peptides (I) from the present invention. The present invention also describes a method for treatistably of the administration of a staphylococcus aureus infection comprising (I). (I) has antibacterial activity, and can composition comprising (I). (I) has antibacterial activity, and can used as an agr gene response inhibitor. The peptides are useful for used as an agr gene response inhibitor.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New cyclic peptides, useful infections -
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24-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 9; Page 10; 18pp; English
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                                                                                                                                                                                                                                                                                                              AAM50899 standard; Peptide;
                                                                                                                                                                                                                           Staphylococcus aureus; AgrD; agr response; inhibitor; antibiotic; antibacterial; infection; therapy; cyclic.
                                                                                                                                                                                                                                                     AgrD-autoinducing cyclic peptide, inhibitor of
                                                                                                                                                                                                                                                                          08-MAY-2002
                                                                                                                                                                                                                                                                                             AAM50899;
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                                                                                                                                Misc-difference
                                                                                                                                                            Misc-difference
                                                                                                                                                                                                         Synthetic
                                                                          08-JAN-2002
                                                                                            US6337385-B1
                                                                                                                                                                               Misc-difference
          (UYRQ )
                                    24-JUN-1998;
                                                       24-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity hes 9; Conserv
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MAYVILLE P.
NOVICK R P.
BEAVIS R.
JI G.
                                                                                                                                                                                                                                                                                                                                                                              1 GVNAXSSLF 9
          UNIV ROCKEFELLER.
UNIV NEW YORK STATE
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                                                                                                                                                                                                                                                                                                                                                             GVNAXSSLF
                                                                                                                                                                                                                                                                                                                                                                                                                                      9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        aureus
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99US-0339511.
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                                      98US-090402P
                                                        99US-0339511
                                                                                                                                                                               Location/Qualifiers
                                                                                                                        /note=
                                                                                                                                                                     /note= "any amino acid"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        infections.
                                                                                                                                                                                                                                                                                                                                                                                               94.9%; but
100.0%; Pr
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                                                                                                                                         "note linked to peptide"
                                                                                                             "note linked to peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     for treating
                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                  Score 37; DB; Pred. No. 9.3
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                                                                                                                                                                                                                                                                                                                                                                                                  DB 23; I
9.3e+05;
hes 0;
                                                                                                                                                     residue 9 to
                                                                                                                          residue 5 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Staphylococcus aureus
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                                                                                                                                                                                                                                                         agr response
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                                                                                                                                                    cyclic
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                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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peptidomimetic or non-amide isostere, Z is a synthetic or a biosynthetic amino acid, n is 0-10 and y is 1-10. The cyclic bond is especially a lactam or lactone bond. The thiololactone structure within native AgrD peptides is required for activation of the agr response. Elimination of the thiol ester component of the cyclic ring structure can destroy agr response activating activity while preserving and enhancing inhibitory activity. A colaimed method of preparing a cyclic peptide involves: assembling a linear peptide chain on to a solid phase resin support; a linear peptide with neutral buffer for a time sufficient to deprotected peptide with neutral buffer for a time sufficient to and recovering the cyclic peptide. The peptide is useful for and recovering the cyclic peptide. The peptide is useful for information interference, especially for the treatment of S. aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of staphylococcus aureus. It is an AgrD-autoinducing peptide, where AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                              proteins responsible for pathogenicity in S. aureus. Preferred proteins may have the sequence NH2-X(n)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester bond, where X is an amino acid, an amino acid analogue, a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 7; Column 19; 18pp; English
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                                                 infection.
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Query Match Best Local Matches GVNAXSSLF Similarity 9; Conserv 94.9%; milarity 100.0%; Conservative 0

<u>,</u>

Score 37; Pred. No.

DB 23; I . 9.3e+05; thes 0;

Length 9

Indels

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Gaps

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Sequence

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AAMSOONS
AC AAMSO
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XX O8-MA
DT O8-MA
XX Staph
XX Staph
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XX Staph
XX Staph
XX Staph
XX Modil
FT Misc
                                                                                                                                                       antibacterial;
                                                                                                                                                                 Staphylococcus
                                                                                                                                                                                      Protected
                                                                                                                                                                                                          08-MAY-2002
                                                                                                                                                                                                                              AAM50908,
                                                                                                                                                                                                                                                  AAM50908 standard; Peptide; 9
                                                                                                                                  Synthetic
                                                                                                                                                                                    peptide used in cyclic peptide production.
                                                                                                                                                                                                           (first entry)
                                                                                                                                                        aureus; AgrD; agr response; infection; therapy; cyclic.
                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                      ₿
                                                                                                                                                                     inhibitor;
                                                                                                                                                                       antibiotic;
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Misc-difference

/note= /note= /note= /label= note= "Z-Gly"

"note linked to residue peptide"

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to form cyclic

"Ser(Bzl)" "Ser(Bzl)" Dpr (Boc)

Modified-site Modified-site Modified-site

Modified-site

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RESULT 13
ADM51005
ID ADM51
XX ADM51
AC ADM51
XX 08-M2
XX 08-M2
XX 08-M2
XX M3FD2
XX AGFD2
XX
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence is that of a protected peptide used in an example of the preparation of novel synthetic cyclic peptides of the invention (see AMM50899-906). The peptide corresponds to the staphylococcus aureus AgrDII sequence with a Cys5 to diaminopropionic acid (Opr) mutation (lactam). It was synthesised on a Wang-resin using an Fmoc N-alpha protection strategy. Pollowing chain assembly, the peptide was cleaved from the support and the Dpr-5 residue deprotected by treatment with a trifluoroacetic acid:anisole:water mixture (90:55) for 4 hr. The partially protected peptides alpha carboxylates were then dissolved in DMF and treated with PyBOP. Cyclization was complete after 2 hr. The remaining protecting groups were removed by treatment with HF and the peptide purified by HFLC. The cyclic peptide is capable of inhibiting the agr response of Staphylococcus aureus. The thioloactone structure within native AgrD peptides is required for activation of this response. Replacement of the thiol ester component of the cyclic ring structure with a lactam (as in the present case) or a lactone can destroy agr response activating activity while preserving and chancing inhibitory activity. The cyclic peptides are useful for infection.
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Muir TW, Mayville P, Novick RP,
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     Stpahylococcus Synthetic.
                                                                             AgrD2; agr infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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                                                                                                                                                         AgrD2 lactam
                                                                                                                                                                                                                08-MAY-2002
                                                                                                                                                                                                                                                                  AAM51005;
                                                                                                                                                                                                                                                                                                                  AAM51005 standard; Peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  infection
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UNIV NEW YORK STATE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GVNAXSSLF 9
                                                                             therapy; cyclic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                      response; inhibitor; antibiotic; antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Column 14; 18pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                         cyclic peptide
                                                                                                                                                                                                             (first
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94.9%; pr
100.0%; Pr
                                                                                                                                                                                                             entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 37; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Beavis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 23; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70
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RESULT 14
ABB07161
ID ABB07
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AC ABB07
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DE Pepti
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                                                                                                                                                                                                                                                                                                       The present sequence is that of a novel synthetic AgrD2 lactam cyclic peptide in which residue 5 of the peptide is linked to residue 9 via a lactam bond. The peptide is derived from an AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrp3 promoter. This allowed activation or inhibition of the agr response to be monitored spectrophotometrically. The AgrD3 clactam peptide inhibited the agr response in group I S. aureus strains and did not activate the agr response in group I S. aureus strains. The invention provides claimed cyclic peptides (see CAMS0899-906 and AAMS0899) and methods for preparing them, captically where the cyclic bond is a lactam or lactone bond. The cyclic peptides are useful for bacterial interference,
                                                                                                                                                                                                                            Query Match
Best Local S
Matches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference
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Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               subject
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-170774/22.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-JUN-1998;
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                        Peptide-mediated quorum sensing inhibitor peptide cyclo-XIII.
                                                    13-MAR-2002
                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (UYNY) UNIV NEW YORK STATE.
                                                                                                         ABB07161 standard; peptide; 9 AA
                                                                              ABB07161;
                                                                                                                                                                           1 GVNAXSSLF 9
                                                                                                                                                                                                                             Similarity
9; Conserv
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                                                                                                                                                                                            GVNAXSSLF
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                                                                                                                                                                                                                            ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                   AA.
                                                   (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "any amino acid'
                                                                                                                                                                                                                                           94.9%; Score 37;
100.0%; Pred. No.
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                                                                                                                                                                                                                              0,
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                                                                                                                                                                                                                                Mismatches
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9.3e+05;
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Autoinducer-2; AI-2; antibiotic; antibacterial; dermatological:

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RESULT 15
AAW38323
ID AAW38
XX AAW38
XX AAW38
XX Trans
XX Stapl
OS Stapl
XX Stapl
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Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to the use of autoinducer-2 (AI-2) agonists or antagonists for regulating activity of autoinducer-2 receptor, regulating batterial growth and pathogenesis. Synergistic antibiotic compositions comprising inhibitors of the quorum-sensing pathway of a microorganism are also provided. Methods using such AI-2 analogues are useful for treating pathogen-associated disease states. The compounds and antibiotic compositions can be used to inhibit bacterial cell growth and/or biofilm formation on a medical device, particularly for promoting growth of skin graft replacements used in the treatment of burns and ulcers. They may also be used to aid wound repair, and to inhibit bacterial cell growth and biofilm formation in or on products or devices used for personal hygiene. The present sequence represents a inhibitor of peptide-mediated quorum sensing.
                                                     Transcription inhibitory peptide; inhibition; antibiotic; abscesses; endocarditis; pneumonia; osteomyelitis; virulence factor; agr regula agr-rnaIII gene; colonisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 33; 134pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Use of autoinducer-2 agonists or antagonists for regulating activity of autoinducer-2 receptor, regulating bacterial growth and pathogenesis, also antibiotic compositions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2002-075235/10
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(QUOR-)
(UYTE-)
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07-DEC-2000;
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Modified-site
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                                                                                                               Transcription
                                                                                                                                                                                                                                                                                                                                                                              Sequence
              Staphylococcus aureus.
                             Synthetic
                                                                                                                                         28-MAY-1998
                                                                                                                                                                    AAW38323
                                                                                                                                                                                             AAW38323 standard;
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                                                                                                                                                                                                                                                                                                                      l Similarity
9; Conserva
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QUOREX PHARM INC.
UNIV TECHNOLOGIES INT
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ilarity 100.0%;
Conservative
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2000US-254398P.
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                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                              AA;
                                                                                                             inhibitory peptide 3.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "diaminoprprionic acid residue"
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                                                                                                                                                                                             peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agr system; accessory gene regulator; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Schauder S,
                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                      Score 37;
Pred. No.
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5. 9.3e+05;
0;
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                                                                                                                                                                                                                                                                                                                          Indels
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                                                                     regulator;
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Search completed: January 29, Job time: 35.0735 secs

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Matches Query Match Best Local

Similarity B; Conserv GVNAXSSLF GVNACSSLF

Conservative

0

Score 36; DB 19; Pred. No. 9.3e+05; Mismatches

Length 9; Indels

0;

Gaps

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This novel peptide sequence (or it's analogue) inhibits agr-rnalII cranscription in Staphylococcus aureus (S. aureus), and is 9 amino acids to prevent infections or added to pharmaceutical compositions to treat cor prevent infections or diseases caused by S. aureus in animals, and cespecially in humans. They can also be combined with traditional can furuncles. S. aureus causes conditions ranging from abscesses (boils and furuncles) to life-threatening infections e.g. endocarditi; lence factors. The synthesis of virulence factors is controlled by the agr regulator, which activates transcription of the agr-rnalII gene to produce RNAIII, which induces transcription of the genes encoding the virulence factors. The peptides inhibit agr-rnalII transcription in and therefor virulence factor expression. The peptides can also be used or virulence factor expression.
                                                                                                                                                                                                                                                                                                                 Peptide inhibiting agr-rnalII transcription in useful to treat S. aureus infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                                    Beavis R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22-MAY-1997;
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Sequence
                                                                                                                                                                                                                                                                                 Claim 7; Page 15; 24pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                  (UYNY ) UNIV NEW YORK STATE
                                                                                                                                                                                                                                                                                                                                                                                                    Novick RP
9 AA;
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5
/note= "linked to the carboxy terminus via a cyclic thicester bond"
                                                                                                                                                                                                                                                                                                                                    Staphylococcus aureus
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Title:
Perfect score:
Sequence:
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No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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         PIR_76:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
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Match Length DB
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39
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       GVNAXSSLF 9
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S58439

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A28067
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probable sugar-bin
probable beta-gluc
hypothetical prote
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lysosomal membrane
P2B/LAMP-1 precurs
120% lysosomal mem
ferrichrome ABC tr
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kpsD protein - Esc
probable polysacch
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Query Match Best Local (RESULT 2 A28067 Lysosomal membrane C;Species: Mus mus C;Accession: A2806 R;Chen, J.W.; Cha, J. Biol. Chem. 263 A;Title: Isolation A;Reference number A;Accession: A2806 A;Molecule: Lype: Mi A;Residues: 1-82 A;Cross-references A;Note: the author; C;Superfamily: Lyss C;Keywords: glycop:	tches	le: wheerence ession trus: produle idues: serimen erics: agr ry Mat	RESULT 1 (89995 Agroprotei) (2)Species: (C)Date: 10-1 (2)Cates: 10-1 (3)Cates: 10-1 (4)Cates: 10-1 (5)Cates: 10-1 (5)Cates: 10-1 (6)Cates: 10-1 (7)Cates: 10-1 (7)Cates: 10-1 (8)Cates: 10-1 (8)Cates: 10-1 (1)Cates: 1	ģ	0 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Similarit	al membrane glycop: ies: Mus musculus () 30-Sep-1989 #seque ssion: A28067 V: Cha, V: Yul 1. Chem. 263, 8754-: 9: Isolation and secence number: A28067 sule type: MRNA thes: 1-982 <chb> - references: GB:Jo: the authors trans; ffamily: lysosome-a; ords: glycoprotein;</chb>	8; Cons 1 GVNAXSS 4 GVNACSS	oole genome seq (B9995) (B9995) reliminary type: DNA 1-47 - KUR> erences: GB:BA tal source: st D Ch Similarity	limported] Staphylococc May-2001 #se C89995 C09995 C00hta, T.; Ohta, T.; T.; Hattori 1225-1240,		71.8 71.8 71.8 71.8 71.8 71.8 71.8 71.8
17.8%;	protein (house m uence_re uksel,	tive 2	'58; MUID: 158; M	- Staph) is aureu [uence_re [uchiyams Kobayas M., Oga	i	55555555555555555555555555555555555555
Score 35; DB 2; Length Pred. No. 2;	-1 - mouse } on 30-Sep-1989 #text_ Ġracy, R.W.; August, a cDNA clone encodin 43732; PMID:3379044 198706; PIDN:AAA39411 odon ATT for residue embrane protein rotein	Mismatches	f meticillin-resistar 1311992; PMID:1141814 ID:g13701831; PIDN:BA ID:g13701831; PIDN:BA Pred. No. 0.11;	COCCUS aureus (strain N sion 10-May-2001 #text_ I.; Baba, T.; Yuzawa, F , N.; Sawano, T.; Inoue wara, N.; Hayashi, H.;	LIGNMENTS	F90350 S754491 S754499 S754499 S72224 S72024 S72024 S72024 S72024 S72024 S72024 S72024 S72
382;	hange 20-Aug-1 J.T. lysosomal mem lysosomal mem	lels 0; Gaps 0;	capylococcus aureus 124.1; GSPDB:GN0014	H XX DO UI		hypothetical prote probable galactosy iron(III) dicitrat hypothetical prote ubiquinol-cytochro ubiquinol-cytochro maltose/maltodextr manganese trochrote similar to Cytochrohypothetical prote beta-glucosidase-l conserved hypothet hypothet conserved hypothet con

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A;Molecule type: mRNA
A;Residues: 22-407 cHIN>
A;Residues: 22-407 cHIN>
A;Cross-references: EMBL:X14765; NID:g56577; PIDN:CAA32873.1; PID:g56578
A;Cross-references: EMBL:X14765; NID:g56577; PIDN:CAA32873.1; PID:g56578
A;Note: part of this sequence, including the amino end of the mature protein, C;Superfamily: lysosome-associated membrane protein
C;Superfamily: glycoprotein; membrane protein
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C;Species:
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F; 22-407/Product:
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                                                                                                                                                                                                                                                                                                                                                                                                  EBS Lett. 244,
                                                                                                                                                                                                                                                                                                                                                                                                             ;Cross-references: EMBL:J03672
;Note: the authors translated the codon GGG for residue 15 as ;Himeno, M.; Noguchi, Y.; Sasaki, H.; Tanaka, Y.; Furuno, K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Species: Rattus norvegicus (Norway rat);Date: 18-Oct-1989 #sequence_revision 30-Sep-1991 #text_change 20-Aug-1999;Accession: A30200; S03331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Title: Molecular characterization of P2B/LAMP-1, a major; Reference number: A60534; MUID:90002989; PMID:2676155
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ktl. Acad. Sci. U.S.A. 85, 7577-7581, 1988
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C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 16-Jun-2000 C;Accession: C69812 R;Kunst, F., Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Ber R;Kunst, F., Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Ber C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, Nature 390, 249-256, 1997 Nature 390, 249-256, 1997 Nature 390, 249-256, 1997 Nature 390, C.R.; Henaut, A.; Hibert, H.; Holsappel, S.; Hosono, S.; Hullo, N.; Forningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Galizzi, A., Galizzi, A., Galizzi, A.; Contecter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardino, A.; Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mau Y.; M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portete Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Saddale, Y.; Sato, T.; Scanl A, Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sckiguchi, J.; Sekowska, A.; Se akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiya, Title: The complete genome sequence of the Gram-positive bacterium Bacillus subtili A, Reference number: A69580; MUID:98044033; PMID:9384377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      receptor-protein kinase-like protein - Arabidopsis thaliana
W.Alternate names: protein F26013.190
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 17-Mar-2000
C;Accession: T45786
kpsD protein - Escherichia coli
C;Species: Escherichia coli
C;Date: 06-Jan-1995 #sequence revision 06-Jan-1995 #text_change 16-Jul-1999
C;Accession: S36653; E48492; C42644
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A; Note: F26013.190
C; Superfamily: una
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A; Accession: T45786
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C; Superfamily:
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A;Cross-references: EMBL:AL133452
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source: strain 1
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A;Status: preliminary
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 22-389 <PAZ>
A;Cross-references: GB:X74567
A;Steenbergen, S.M; Wrona, T.J.; Vimr, E.R.
D;Steenbergen, S.M; Wrona, 1992
A;Steenbergen, S.M; Wrona, 1992
A;Title: Functional analysis of the sialyltransferase complexes in Escherichia coli
A;Reference number: A42644; MUID:92138601; PMID:1735705
A;Accession: C42644
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A;Title: Molecular analysis of region 1 of the Escherichia coli K5 antigen gene cluster. A;Reference number: A48492; MUID:93388530; PMID:8397187
A;Accession: E48492
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A; Molecule type; DNA
A; Residues: 1-389 < ROB>
A; Residues: 1-389 < ROB>
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; NID: g397404; PIDN: CAA52659.1; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397404; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397404; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397404; PID: g397404; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397404; PID: g397404; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397404; PID: g397404; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397404; PID: g397404; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397404; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397404; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397409
A; Cross-references: EMBL: X74567; PID: g397409
A; Cross-references: EMBL
RESULT 9
D69750
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             probable polysaccharide modification protein Cj1413c [imported] - Campylobal
C;Species: Campylobacter jejuni
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 03-Jun-2002
C;Accession: E81286
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A;Residues: 106-125,'D',127-244,'N',246-297,'S',299-300,'VI',303-379,'M',381-385,'W',387
A;Cross-references: GB:M76370; NID:g146947; PIDN:AAA24214.1; PID:g146950
A;Experimental source: K1, strain EV1
A;Experimental source: K1, strain EV1
A;Note: sequence extracted from NCBI backbone (NCBIN:79370, NCBIP:79381)
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C;Superfamily: kpsD protein
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A;Residues: 1-094 <PAR>
A;Cross references: GB.AL139078;
A;Experimental source: serotype (
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A;Accession: E81286
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Best Local
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Similarity 87.5%;
7; Conservation
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O2, strain NCTC 11168
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Pred. No. 18;
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Pred. No. 19;
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    Campylobacter jejuni

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RESULT 11 A99227

hypothetical

protein SS00775 [imported] -

Sulfolobus solfataricus

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787

INATSSLF

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R;Kunst, F; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Ber C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, Nature 390, 249-256, 1997

Noctret, D; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Cardino, A.; Mauthors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mau, Y.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portete Rieger, M.; Ogawara, A.; Oudega, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanl, A.; Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Se akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiyan, A.; Matters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida, A.; Alithors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A.

N;Title: The complete genome sequence of the Gram-positive bacterium Bacillus subtili A; Reference number: A69580, MUID:98044033; PMID:9384377
                                                                                                                                                                                                                   A;Gene: SGD:SEC24; SEC24; MIPS:YIL109c
A;Cross-references: MIPS:YIL109c; SGD:S0001371
A;Map position: 9L
C;Function:
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A; Accession: S48463
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N;Alternate names: protein YIL109c
C;Species: Saccharomyces cerevisiae
C;Date: 02-Dec-1994 #sequence_revision 02-Dec-1994 #text_change 19-Apr-2002
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A; Residues: 1-926 <BOW>
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A;Experimental source: strain 168
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Matches
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      2 VNAXSSLF 9
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                                                             Conservative
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                                                                    Score 31; DB 2;
Pred. No. 48;
1; Mismatches
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Pred. No.
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A;Cross-references: GB:AE006641;
C;Genetics:
A;Gene: SSO0775
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A;Molecule type: DNA
A;Residues: 1-109 <KUR>
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A;Description: Sulfolobus solfataricus complete genome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Parkhill, J.; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barre Nature 413, 523-527, 2001
A;Title: Genome sequence of Yersinia pestis, the causative agent of plague.
A;Reference number: AB0001; MUID:21470413; PMID:11586360
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A;Accession: A99227
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C;Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change 24-May-2001
C;Accession: A99227
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A; Residues: 1-420 < KUR>
A;Residues: 1-560 <ROU>
A;Residues: 1-560 <ROU>
A;Cross-references: EMBL:AC004521; NID:g3128166; PIDN:AAC16095.1; PID:g3128191
A;Experimental source: cultivar Columbia
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fuj
                                                                                                                                                                       C;Accession: T02404; B84879
R;Rounaley, S.D.; Lin, X.; Ketchum, submitted to the EMBL Data Library, A;Description: Arabidopsis thaliana
                                                                                                                                                                                                                                     probable beta-glucosidase homolog F4II.30 - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 05-Mar-1999 #sequence revision 05-Mar-1999 #text_change 16-Feb-2001 C;Date: 05-Mar-1999 #sequence revision 05-Mar-1999 #text_change 16-Feb-2001 C;Accession: T02404; B84879
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                                                                                A,Status: translated from GB/EMBL/DDBJ
A,Molecule type: DNA
                                                                                                                             A; Reference number: Z14667
A; Accession: T02404
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Pred.
                                                                                                                                                                          K.A.; Crosby, M.L.; Brandon, R.C.; Syke: May 1998 chromosome II BAC F4II genomic sequence
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M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Ta: euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Ve Nature 402, 761-768, 1999
A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana. A;Reference number: A84420; MUID:20083487; PMID:10617197
A;Accession: B84879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             submitted to the EMBL Data Library, September 1997 A,Reference number: Z20330 A,Accession: T27215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hypothetical protein Y57G11C.1 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 31-Jan-2000
C;Accession: T27215
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A;Introns: 3/2; 33/3; 76/3; 102/1; 157/2; 242/3;
C;Superfamily: Agrobacterium beta-glucosidase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: GB:AE002093; NID:g3128191; C;Genetics:
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A;Molecule type: DNA
A;Residues: 1-560 <STO>
                                                                                                                                                                                                 transcription factor AKR - chicken
N;Alternate names: avian knotted-related protein; homeotic protein
C;Species: Gallus gallus (chicken)
C;Date: 28-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 24-
C;Accession: S58439; S58440
R;Ryan, A.K.; Tejada, M.L.; May, D.L.; Dubaova, M.; Deeley, R.G.
submitted to the EMBL Data Library, April 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Map position: 4
A;Introns: 70/1; 329/3
C;Superfamily: multidrug
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A; Residues: 1-633 <WIL>
A; Cross-references: EMB
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A;Cross-references: EMBL:U25353; NID:g857681; PIDN:AAA83567.1; PID:g857682 R;Ryan, A.K.; Tejada, M.L.; May, D.L.; Dubaova, M.; DeeLey, R.G. Nucleic Acids Res. 23, 3252-3259, 1995 A;Title: Isolation and Characterization of the chicken homeodomain protein
                                                                                        A; Molecule type: mRNA
A; Residues: 1-269 < RYA>
                                                                                                                                                       A; Description: Isolation and characterization A; Reference number: 858439
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ce: clone Y57G11C
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A;Reference number: S58440; MUID:95396587; PMID:7667102
A;Accession: S58440
A;Accession: S58440
A;Status: nucleic acid sequence not shown
A;Molecule type: mRNN
A;Residues: 35-94 <RYF>
A;Cross-references: EMBL:UZ5353
C;FUNCTION:
A;Description: negative regulator of apoVLDLII (major egg yolk apolipoprotein)
A;Description: negative regulator of apoVLDLII (major egg yolk apolipoprotein)
A;Description: negative regulator of apoVLDLII (major egg yolk apolipoprotein)
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Maximum DB seq
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     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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     protein search, using sw model
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length: 2000000000
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    GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen, Ltd
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P49129 cricetulus
P39816 bacillus su
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P47321	Q10268	P52313	Q9zfr9	P31494	Q8yp12	066746	PS5977	Q9zja6	Q55518	P47120	004202
	schizosacch	yersinia ps	yersinia pe	yersinia		aquifex aeo	helicobacte	helicobacte	synechocyst	saccharomyc	arabidopsis

ALIGNMENTS

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OCCORDEDUCATION
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Matches 7
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EMBL; M25244; AAA39869.1; -.
EMBL; M25244; AAA39411.1; -.
PIR; A28067; A28067
PIR; A60534; A60534.
MGD; MGT:96745; Lamp1.
InterPro; IPR022000; Lamp.
PELMTS; PR00336; LYSASSOCTDMP.
PRINTS; PR00336; LYSASSOCTDMP.
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PROSITE; PS00311; LAMP_2; 1.
Transmembrane; Glycoprotein;
SIGNAL 1
                       LMP1 RAT STANDARD; PRT; 407 AA.
P14562; P97620;
01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Lysosome-associated membrane glycoprotein 1 precursor (LAMP-1)
kDa lysosomal membrane glycoprotein) (GP-120) (CD107A).
LAMP1 OR LAMP-1.
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
NCBI_TaxID=10116;
                                                                       RAT
RAT
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                                                                                                                     Similarity 77. 7; Conservative
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POTENTIAL.
CYTOPLASMIC (POTENTIAL)
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SECOND LUMENAL DOMAIN.
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Pred. No.
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SEQUENCE OF 283-357 FROM N.A.

STRAILWHISTAR KYOLO; TISSUE-ADARTIC SMOOTH MUSCLE;
Adams L.A., Werry I., Schwaftz S.M.;
Submitted (OCT-1996) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: PRESENTS CARBOHYDRATE LICANDS TO SELECTINS.
-!- SUBCELLULAR LOCATION: Type I membrane protein. Lysoson
-!- SUBCELLULAR LOCATION: Type I membrane protein. ATTELL NET PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOSOMES, AND ADAPT PROTEIN SHUTTLES BETWEEN LYSOSOMES.
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SEQUENCE FROM N.A.
MEDLINE=89017240; PubMed=3174652;
Howe C.L., Granger B.L., Hull M.,
Mellman I.;
                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collab between the SWiss Institute of Bioinformatics and the EWEL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentifies requires a license agreement (See http://www.isb-sib.ch/an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Isolation and sequencing of a cDNA clone encoding 107 kDa sialoglycoprotein in rat liver lysosomal membranes."; FEBS Lett. 244:351-356(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Himeno M., Noguchi Y.,
Sakaki Y., Kato K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Derived protein sequence, oligosaccharides, and membrane insertion of the 120-kDa lysosomal membrane glycoprotein (lgp120): identification of a highly conserved family of lysosomal membrane glycoproteins.";
EMBL; M34959; AAA41525.1; -.
EMBL; X14765; CAA32873.1; -.
EMBL; U75406; AAB19108.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [2]
SEQUENCE OF 22-407 FROM N.A.
MEDLINE=89153580; PubMed=2920835;
                                                                                                               entities requires a license agreement (Some send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                     PTM: O- AND N-GLYCOSYLATED; SOME OF THE LAMP-1 ARE POLYLACTOSAMINOGLYCANS (BY SIMILARITY: BELONGS TO THE LAMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Acad. Sci. U.S.A. 85:7577-7581(1988).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     membrane protein. Lysosomal.
N LYSOSOMES, ENDOSOMES, AND THE PLASMA
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DR EMBL; M34959; AAA41525.1; -.

DR EMBL; X14765; CAAA32873.1; -.

DR EMBL; V75406; AAB49108.1; -.

DR PIR; A30200; A30200.

PIR; HA00200; Lamp.

DR InterPro; IPR002000; Lamp.

DR Pfam; PF01299; Lamp.

DR PRNTS; PR00336; LYSASSOCTDMP.

DR PROSITE; PS00316; LYSASSOCTDMP.

DR PROSITE; PS00310; LAMP_1; 2.

DR PROSITE; PS00311; LAMP_2; 1.

SIGNAL 22 407 LYSOSOME-ASSOCIATED MEMBRANE GLYCOPROTEIN
CHAIN 22 407 LYSOSOME-ASSOCIATED MEMBRANE GLYCOPROTEIN
CHAIN 22 371 LUMENAL (POTENTIAL).
TRANSMEM 372 395 POTENTIAL.

DOMAIN 396 407 CYTOPLASMIC (POTENTIAL).
DOMAIN 22 189 FIRST LUMENAL DOMAIN.
DOMAIN 219 HINGE.
DOMAIN 22 189 FIRST LUMENAL DOMAIN.
DOMAIN 20 371 SECOND LUMENAL DOMAIN.
DISULFID 36 75 BY SIMILARITY.
DISULFID 36 75 BY SIMILARITY.
DISULFID 36 85 SIMILARITY.
DISULFID 32 365 BY SIMILARITY.
CARBOHYD 32 32 N.-LINKED (GLCNAC. .) (POTENTIAL).
CARBOHYD 79 79 N.-LINKED (GLCNAC. .) (POTENTIAL).
CARBOHYD 71 71 N.-LINKED (GLCNAC. .) (POTENTIAL).
CARBOHYD 102 102 N.-LINKED (GLCNAC. .) (POTENTIAL).
CARBOHYD 115 115 N.-LINKED (GLCNAC. .) (POTENTIAL).
CARBOHYD 125 125 N.-LINKED (GLCNAC. .) (POTENTIAL).
CARBOHYD 116 N.-LINKED (GLCNAC. .) (POTENTIAL).
CARBOHYD 1178 N.-LINKED (GLCNAC. .) (POTENTIAL).
CARBOHYD 116 N.-LINKED (GLCNAC. .) (POTENTIAL).
CARBOHYD 1178 N.-LINKED (GLCNAC. .) (POTENTIAL).

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RESULT 3

KSS5_ECOLI STANDARD;
AC P42218;
AC Enterobacteria;
AC MEDLINE 9338530;
AC P42221;
AC MACHINE 9338530;
AC P42221;
AC P422221;
  RESULT 4
LMP1_CRIGR
ID _LMP1_C
AC P49129
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Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Molecular analysis of region 1 of the Escherichia coli K5 antigen gene cluster: a region encoding proteins involved in cell surface expression of capsular polysaccharide.";

J. Bacteriol. 175:5978-5983(1993).
  LMP1_CRIGR P49129;
                                                                                                                                                                                                                                                                                                                                                PIR; S36653; S36653.
Pfam; PF05159; Capsule_synth; 1.
Polysaccharide transport; Transport.
SEQUENCE 389 AA; 46381 MW; 73058122C28027DE CRC64;
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Rosenow C., Boulnois G.J.,
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Transmembrane; Glycoprotein; Lyc
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NCBI_TaxID=10029;
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SECOND LUMENAL DOMAIN.
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N-LINKED (GLCNAC...)
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CYTOPLASMIC (POTENTIAL).
FIRST LUMENAL DOYAIN.
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BY SIMILARITY.
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(POTENTIAL).

(POTENTIAL)

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01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
Lysosome-associated membrane glycoprotein 1 p
(Lysosomal membrane glycoprotein A) (LGP A).
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                                                                                                                                                                                                                                                                                   membrane glycoproteins.";

Cell. Mol. Biol. Res. 41:405-420(1995).

Cell. Mol. Biol. Res. 41:405-420(1995).

Cell. Mol. Biol. Res. 41:405-420(1995).

IMPLICATED IN TUMOR CELL METASTASIS (BY SIMILARITY).

ISUBCELLULAR LOCATION: Type I membrane protein. Lysosomal.
THIS PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOSOMES, AND THE MEMBRANE (BY SIMILARITY).

MEMBRANE (BY SIMILARITY).

STM: 0- AND N-GLYCOSYLATED; SOME OF THE N-GLYCANS ATTACHED LAMP-1 ARE POLYLACTOSAMINOGLYCANS (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cricetulus griseus (Chinese hamster).
Eukaryota; Metazoa; Chordata; Craniat
Mammalia; Eutheria; Rodentia; Sciuros
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
MEDLINE=97021428; PubMed=8867788;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Uthayakumar S., Granger B.L.;
"Cell surface accumulation of overexpressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hamster
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RA Azevedo V., Eertero M.G., Bessieres P., Bolotin A., Borchert S.,
RA Borriss R., Eoursier L., Brans A., Braun M., Brignell S.C., Bron S.,
RA Brouillet S., Bruschi C.V., Caldwell B., Capuano V., Carter N.M.,
RA Brouillet S., Bruschi C.V., Caldwell B., Capuano V., Carter N.M.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J., Daniel R.A.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J., Daniel R.A.,
RA Choi S.K., Codani J.J., Connerton I.F., Capuano V., Carter N.M.,
RA Chimsot, J., Errington J., Fabret C., Ferrari E., Foulger D.,
RA Ghim S.Y., Glaser P., Goffeau A., Golightly E.J., Grandi G.,
RA Guiseppi G., Guy B.J., Haga K., Haiech J., Hawood C.R., Henaut A.,
RA Hibert H., Holsappel S., Hosono S., Hullo M.F., Itaya M., Jones L.,
RA Joris B., Karamata D., Kasahara Y., Klaerr-Blanchard M., Klein C.,
RA Kurita K., Lapidus A., Lardinois S., Lauber J., Lazarevic V.,
RA Kurita K., Lapidus A., Lardinois S., Lauber J., Lazarevic V.,
RA Medina N., Mellado R.P., Mizuno N., Moestl D., Nakai S., Noback M.,
RA Prescan E., Fujic P., Furnelle B., Rapoport G., Rey M., Reynolds S.,
RA Nonne D., O'Reilly M., Ogawa K., Ogiwara A., Oudega B., Park S.H.,
RA Parro V., Pohl T.M., Portetelle D., Porwollik S., Prescott A.M.,
RA Rieger M., Rivolta C., Rocha E., Roche B., Rose M., Saddie Y.,
RA Sato T., Scanlan E., Schleich S., Schroeter R., Scoffone F.,
RA Sato T., Scanlan E., Schleich S., Schroeter R., Scoffone F.,
RA Takeuchi M., Tarconi E., Takagi T., Takahashi H., Takemaru K.,
RA Takeuchi M., Tarconi E., Takagi T., Takahashi H., Takemaru K.,
RA Yari A., Wambutt R., Wedler E., Wedler E., Wedler E., Vasmane K.,
RA Winters P., Wipat A., Yamameto H., Yamane K., Yasumoto K., Yata K.,
Ra Winters P., Wipat A., Yamanec G. the Gram-positive bacterium Bacillus
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SEQUENCE
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15-JUL-1998
28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Haga K., Liu H., Yasumoto K., Takahashi H., Yoshikawa H. "Sequence analysis of the 70kb region between 17 and 23 Bacillus subtilis chromosome.";
Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YBFS
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P39816;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bacillus subtilis.
Bacteria; Firmicutes;
STRAIN=168 / 6GM;
MEDLINE=95270606; PubMed=7751298;
Tolner B., Ubbink-Kok T., Poolman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=98044033; PubMed=9384377;
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                                                                                 "The complete subtilis.";
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                                          SEQUENCE OF 515-631 FROM N.A
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(Rel. 36, Last sequence update)
(Rel. 41, Last annotation update)
system IIABC component ybfS (EC
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  Poolman
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Pred. No. 11;
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  B., Konings W.N.;
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                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P20166;
                                                                                    Similarity 75.
                                                                                                                                                                                                                                                                                                                                                                                                               PS00371; PTS_EIIA_1; 1.
PS01035; PTS_EIIB_CYS; 1.
                               GINAASSL 179
                                                          GVNAXSSL
                                                                                                                                        478
122
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Phosphorylation;
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Phosphotransferase system; Sugar transport; ylation; Transmembrane; Complete proteome. PHOSPHORYLATION (BY SIMILARITY). 9 PHOSPHORYLATION (BY SIMILARITY). 7

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68144 MW; 79.5%;

88388A72EEC85B9B CRC64;

Score 31; DB Pred. No. 17; 1; Mismatches

1,

Length 631, Indels

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Gaps

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SUGGAR PHOSPHOTRANSFERASE SYSTEM (PTS), A MAJOR CARBOHYDRATE DEPENDENT SUGAR PHOSPHOTRANSFERASE SYSTEM (PTS), A MAJOR CARBOHYDRATE ACTIVE -TRANSFORT SYSTEM. THE IICD DOMAINS CONTAIN THE SUGAR BINDING SITE AND THE TRANSMEMBRANE CHANNEL; THE IIA DOWAIN CONTAINS THE PRIMARY PHOSPHORYLATION SITE (THE DONOR IS PHOSPHO-HPR); IIA TRANSFERS ITS PHOSPHORYLATION FOR THE IIB DOMAIN WHICH FINALLY TRANSFERS IT TO THE SUGAR (BY SIMILARITY).

THE SUGAR (BY SIMILARITY).

-I- CAPALYTIC ACTIVITY: Protein N-phosphohistidine + sugar = protein histidine + sugar phosphate.

-I- SIMILARITY: Contains 1 PTS EIIA domain.

-I- SIMILARITY: Contains 1 PTS EIIB domain.

-I- SIMILARITY: Contains 1 PTS EIIB domain.
                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        subtilis and its functional expression J. Bacteriol. 177:2863-2869(1995).
EMBL; AB006424; BAA33132.1; -.
EMBL; Z99105; CAB12029.1; -.
EMBL; U51447; AAA82877.1; -.
EMBL; U5447; AAA82877.1; -.
PIR; D69750; D69750.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Characterization of the proton/glutamate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 symport protein of Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of Bacillus
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RESULT 6
SC24_YEAST
ID SC24_Y
     SGD; S0001371; SEC24.

GO; GO:0005515; F:protein binding acti
GO; GO:0006914; F:autophagy; IMP.
InterPro; IPR001974; Gelsolin.
InterPro; IPR006906; Sec23_helical.
InterPro; IPR006996; Sec23_trunk.
InterPro; IPR006995; zf.Sec23_sec24.
Pfam; PF00626; Gelsolin; 1.
Pfam; PF004811; Sec23_trunk; 1.
Pfam; PF04810; zf.Sec23_sec24; 1.
                                                                                                                                                                                                      EMBL; Z38125; CAA86271.1; -. PIR; S48463; S48463. PDB; 1M2V; 20-SEP-02.
                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=20177547; PubMed=10712514; MEDLINE=20177547; PubMed=10712514; Kaiser C.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=20219212; PubMed=10753972; Peng R., De Antoni A., Gallwitz D.; "Evidence for overlapping and distinct functions in protein transport of coat protein Sec24p family members."; J. Biol. Chem. 275:11521-11528(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PubMed=9169870,
Churcher C.M., Bowman S., Badcock K., Bankier A., Brown D.,
Chillingworth T., Comnor R., Devlin K., Gentles S., Hamiln N.,
Chillingworth T., Comnor R., Devlin K., Gentles S., Hamiln N.,
Harris D.E., Horsnell T., Hunt S., Jagels K., Jones M., Lye G.,
Moule S., Odell C., Pearson D., Rajandream M.A., Rice P., Rowley N.,
Skelton J., Smith V., Walsh S., Whitehead S., Barrell B.G.;
"The nucleotide sequence of Saccharomyces cerevisiae chromosome IX.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Protein transport protein Sec24 (Abnormal SEC24 OR ANUI OR YIL109C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-FEB-1995
15-SEP-2003
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01-FEB-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kurihara T., Hamamoto
Yoshihisa T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cerevisiae."
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STRAIN=S288c / AB972;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            formation from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sec24p and
                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: COMPONENT OF THE COPII COAT, THAT COVERS ER-DERIVED VESICLES INVOLVED IN TRANSPORT FROM THE ENDOPLASMIC RETICULUM TO THE GOLGI APPARATUS. COPII ACTS IN THE CYTOPLASM TO PROMOTE THE TRANSPORT OF SECRETORY, PLASMA MEMBRANE, AND VACUOLAR PROTEINS FROM THE ENDOPLASMIC RETICULUM TO THE GOLGI COMPLEX.

SUBUNIT: COPII IS COMPOSED OF AT LEAST FIVE PROTEINS: THE SEC23/SUBUNIT: THE SEC13/31 COMPLEX AND SARI.

SUBCELLULAR LOCATION: Cytoplasmic (By Similarity).

SIMILARITY: BELONGS TO THE SEC23/SEC24 FAMILY. SEC24 SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _YEAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         387:84-87 (1997) .
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   Protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
23_trunk; 1.
Sec23_Sec24; 1.
transport; Golgi stack;
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                                                                                                                                                                          activity;
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n Saccharomyces
   Endoplasmic reticulum;
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01-NOV-1997
01-NOV-1997
28-FEB-2003
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DOMAIN
DOMAIN
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SEQUENCE
                                                                                                 Transcription regulation, Nuclear protein.
DNA_BIND 35 97
SEQUENCE 269 AA; 29442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homeodomain protein AKR (Avian knotted-related protein).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was modified and this statement is not removed. Usage by and for commercia entities requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                 Nucleic Acids Res. 23:3252-3259(1995).
-!- FUNCTION: BINDS TO THE F' ELEMENT OF THE APOVLDLII GI
REPRESS ITS TRANSCRIPTION.
-!- SUBCELLULAR LOCATION: Nuclear.
-!- SUBCELLULAR LOCATION: Nuclear.
                                                                                                                                                 PRODOM; PD000010; Homeobox; 1.
SMART; SM00389; HOX; 1.
PROSITE; PS00027; HOMEOBOX 1; FALSE NEG.
PROSITE; PS50071; HOMEOBOX 2; 1.
                                                                                                                                                                                                       InterPro; IPR001356; Homeobox.
Pfam; PF00046; homeobox; 1.
                                                                                                                                                                                                                               EMBL; U25353; AAA83567.1; -...
PIR; S58439; S58439.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=95396587; PubMed=7667102;
Ryan A.K., Tejada M.L., May D.L., Dubaova M., I
"Isolation and characterization of the chicken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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                                                 Similarity 6; Conserv
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GANAQSGLF
                          GVNAXSSLF
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110
157
926 AA;
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(Rel. 35, Last sequence update)
(Rel. 41, Last annotation update)
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                                                  Conservative
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                                                                                                                                       Repressor; Homeobox; DNA-binding;
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Pred. No. 26;
1; Mismatches
                                                 Score 29; DB 1;
Pred. No. 20;
0; Mismatches
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POLY-GLN.
POLY-PRO.
                                                                                                  HOMEOBOX (TALE-TYPE)
1074355DCC0C2253 (
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n homeodomain
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                                                                         Length 269;
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RESULT

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THE TOTAL SERVICE TO THE PROPERTY OF THE PROPE
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Matches 6
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InterPro: IPR001899; Gram_pos_ancho:
InterPro: IPR001899; Gram_pos_ancho:
InterPro: IPR001335; M repeat.
Pfam; PF00746; Gram_pos_anchor; 1.
Pfam; PF02370; M; 7.
Pfam; PF024650; YSIRK_signal; 1.
PRINTS; PR00015; GPOSANCHOR.
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01-AUG-1990
28-FEB-2003
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P16946;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Haanes E.J., Cleary P.P.;
"Identification of a divergent M protein gene and ar gene family in Streptococcus pyogenes serotype 49.";
J. Bacteriol. 171:6397-6408(1989).
-I- SUBCELLULAR LOCATION: Attached to the cell wall an amide bond (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Streptococcus pyogenes. Bacteria; Firmicutes; I
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DOMAIN
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TIGRPAMS; TIGRO1168; YSIRK_signal; 1.
PROSITE; PSSO847; GRAM_POS_ANCHORING; 1.
Virulence; Phagocytosis; Cell wall; Peptidoglycan-anchor; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; M23689; AAA26919.1; -.
EMBL; M31790; AAA26875.1; -.
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MEDLINE=90078078; PubMed=2687231;
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01-AUG-1990 (Rel. 15, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Virulence factor-related M protein precursor.
                                                                                                                                                                                              DOMAIN
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REPEAT
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GVNAXSSL 8
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                                                                                       74.4%;
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                                                                                                                                                     MW;
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                                                                Score 29; DB
Pred. No. 28;
1; Mismatches
                                                                  1.
                                                                                                                                                   GLY/PRO-RICH (CELL WALL-SPANNING).
LPXTG SORTING SIGNAL (POTENTIAL).
AMIDE-LINED TO CELL WALL (POTENTIAL);
4AD6D5A72F637839 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           VIRULENCE FACTOR-RELATED M PROTEIN REMOVED BY SORTASE (POTENTIAL).
2 X REPEATS, TYPE A.
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01-MAR-1989
01-OCT-1994
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Rasko D., Buckles E.L., Liou S.-R., Boutin A., Hackett J., Stroud D.,
Mayhew G.F., Rose D.J., Zhou S., Schwartz D.C., Perna N.T.,
Mobley H.L.T., Donnenberg M.S., Blattner F.R.,
Mobley H.L.T., Blattne
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PRINTS; PR00084; MTLDHDRGNASE; 1.

PROSITE; PS00974; MANNITOL_DHGENASE; 1.

OXIdoreductase; NAD; Complete proteome.

OXIDOREM 3

14

NAD (BY SIMILARITY)

NEQUENCE 382 AA; 41124 MW; 3121F924FE9357B7
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Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
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15-SEP-2003 (Rel. 42, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Mannitol-1-phosphate 5-dehydrogenase (EC 1.1.1.17).
MTLD OR C4417.
                                                                                                                                                                                                                                                     Ol-MAR-1989 (Rel. 10, Created)
01-OCT-1994 (Rel. 3), Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update
Mannitol-1-phosphate 5-dehydrogenase (EC 1.
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-!- SIMILARITY: Belongs to the mannitol dehydrogenase family.
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                                                                                                         Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriaceae; Escherichia.
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MEDLINE=22388234; Publ
   SEQUENCE FROM N.A
                                                                                                                                                                                      Escherichia
                                                                  NCBI_TaxID=562;
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(EC 1.1.1.17)
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(See http://www.isb-sib.ch/announce/
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Best Local &
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EMBL; MO0039; AAB18577.1; -.
EMBL; AE000438; AAC76624.1; -.
EMBL; X06794; CAAA9954.1; ALT_SEQ.
EMBL; W03845; AAA92661.1; -.
PIR; B65160; B65160.
EcoGene; E010616; mtlD.
HAMAP; MF_00196; -; 1.
InterPro; IPR00069; Mannitol_dh.
Pffam; PF01232; Mannitol_dh; 1.
PRINTS; PR00084; MTLDHDECNASE;
PROSITE; PS00974; MANNITOL_DHGENASE;
                                                                                                         CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 1-25.

MEDLINE=85006766; PubMed=6384188;

MOVOTINY M.J., Reizer J., Esch F., Saier M.H. Jr.;

NOVOTINY M.J., Reizer J., Esch F. Saier M.H. Jr.;

NOVOTINY M.J., Reizer J., Esch F., Saier M.H. Jr.;

"Purification and properties of D-mannitol-1-phosphate dehydrogenase from Escherichia coli.";

J. Bacteriol. 159:986-990(1984).

-!- CATALYTIC ACTIVITY: D-mannitol 1-phosphate + NAD(+) = D-fructose
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "HUBLINE=94316500; PubMed=8041620; Sofia H.J., Burland V., Daniels D.L., Plus "Analysis of the Escherichia coli genome. region from 76.0 to 81.5 minutes."; Nucleic Acids Res. 22:2576-2586(1994).
                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@isb-sib.ch).
                                                                                                                  Oxidoreductase; NAD; Complete proteome.

NP BIND 3 14 NAD (BY SIMILARITY)

CONFLICT 86 86 A -- R (IN REF. 1 A
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Davis T., Yamada M., Elgort M., Saier M.H.
"Nucleotide sequence of the mannitol (mtl)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Figge R.M., Ra
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STRAIN=K12 / MG1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            he mannitol repressor (MtlR)
Bacteriol. 176:840-847(1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY: Belongs to the mannitol dehydrogenase family.
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SUBUNIT: Monomer.
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 62
                                                      Similarity 6; Conserv
                          GVNAXSSL
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                                                                                                           382
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ramseier T.M., Saier M.H. ol repressor (MtlR) of Esci
                                                      Conservative
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                                                                                                                                                                MANNITOL_DHGENASE; 1.
                                                                                                           86 A
41139 MW;
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                                                                  74.48;
75.08;
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                                                    Score 29; DB
Pred. No. 30;
1; Mismatches
                                                                                                           1AC44028C150A7B2 CRC64;
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operon in Escherichia
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                                                                               1.
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MTLD_SALTI
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Q9XBM6;
30-MAY-2000
30-MAY-2000
15-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                         28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation updat
Mannitol-1-phosphate 5-dehydrogenase (EC 1.
MTLD OR STY4110 OR T3833.
STRAIN-CT18;
MEDLINE=21534947; PubMed=11677608;
Parkhill J., Dougan G., James K.D., Thomson N.R., Pickard D., Wai Churcher C., Mungall K.L., Bentley S.D., Holden M.T.G., Sebaihia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commentities requires a license agreement (See http://www.isb-sib.ch/amor send an email to license@isb-sib.ch).
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"The mtl genes and the mannitol-1-phosphate dehydrogenase
"The promoniae KAY2026.";
FEMS Microbiol. Lett. 194:221-227(2001).
-!- CATALYTIC ACTIVITY: D-mannitol 1-phosphate + NAD(+) =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oxidoreductase; NAD NP_BIND 3
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30-MAY-2000 (Rel. 39, Last seq
15-SEP-2003 (Rel. 42, Last ann
Mannitol-1-phosphate 5-dehydro
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                                                                                                                                                                   SEQUENCE FROM
                                                                                                                                                                                                                                                                               Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriaceae; Salmonella.
                                                                                                                                                                                                                                                                                                                                                 Salmonella typhi.
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MEDLINE=21100248;
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Enterobacteriaceae; Klebsiella.
                                                                                                                                                                                                                                                                            Enterobacteriaceae;
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PROSITE; PS00974; MANNITOL_DHGENASE;
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SIMILARITY: Belongs to the mannitol dehydrogenase family.
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PubMed=11164312;
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1; Mismatches
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EMBL; AE016847; AAO71314.1; -.
HAMAP; MF 00196; -; 1
InterPro; IPR000669; Mannitol_dh.
Pfam; PF01232; Mannitol_dh; 1.
PRINTS; PR00084, MTLDEDRGNASE.
PROSITE; PS00974; MANNITOL_DHGENASE
                                                                                                                                                                                                                                           28-FEB-2003
28-FEB-2003
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            STRAIN=LT2 / SGSC1412 / ATCC 700720;

MEDLINB=21.34948; PubMed=11677609;

MCCLelland M., Sanderson K.E., Spieth J., Clifton S.W., La
Courtney L., Porwollik S., Ali J., Dante M., Du F., Hou S.
Leonard S., Nguyen C., Scott K., Holmes A., Grewal N., Mul
Leonard S., Nguyen C., Scott K., Holmes A., Grewal N., Mul
Ryan E., Sun H., Florea L., Miller W., Stoneking T., Nhan
Ryan E., Sun H., Wilson R.K.;
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=Ty2 / ATCC 700931;

MEDLINE=22531367; PubMed=12644504;

Deng W., Liou S.-R., Plunkett G. III, Mayhew G.F., Rose D.J.,

Burland V., Kodoyianni V., Schwartz D.C., Blattner F.R.;

"Comparative genomics of Salmonella enterica serovar Typhi strains and CT18.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Complete genome sequence of a enterica serovar Typhi CT18."; Nature 413:848-852(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Baker S., Basham D., Brooks K., Chillingworth T., Connerton P., Cronin A., Davis P., Davies R.M., Dowd L., White N., Farrar J., Feltwell T., Hamlin N., Haque A., Hien T., Wholord S., Jagels K., Krogh A., Larsen T.S., Leather S., Moule S., O'Gaord P., Parry C., Quail M., Rutherford K., Simmonds M., Skelton J., Stevens K., Whitehead S., Barrell B.G.,
                                                                                                                                                                  Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriaceae; Salmonella.
                                                                                                                                                                                                                 MTLD OR
                                                                                                                                                                                                                                                                                          MTLD_SALTY
Q8ZL67;
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-!- SIMILARITY: Belongs to the mannitol dehydrogenase family.
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STRAIN=Ty2 / ATCC 700931;
                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                  NCBI_TaxID=602;
                                                                                                                                                                                                 Salmonella typhimurium.
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serovar Typhimurium
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HAMAP; MF 00196; -; 1.

InterPro; IPR000669; Mannitol_dh.

Pfam; PF01232; Mannitol dh; 1.

PRINTS; PR00084; MTLDHDRGNASE.

PROSITE; PS00974; MANNITOL_DHGENASE; 1.

Oxidoreductase; MAD; Complete proteome.

NP BIND

12 AA; 40999 MW; C5781FBF88C507E1
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Q55276;
16-OCT-2001
                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restructe by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreement (See http://www.isb-sorsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                           the cyanobacterium Synechococcus sp strain PCC7942.";
Plant Cell 6:1107-1121(1994).
-!- FUNCTION: CATALYZES THE DOUBLE CYCLIZATION REACTION WHICH CONVERTS
-!- LYCOPENE TO BETA-CAROTENE AND NEUROSPORENE TO BETA-ZEACAROTENE.
-!- ENZYME REGULATION: INHIBITED BY THE BLEACHING HERBICIDE 2-(4-METHYLPHENOXY)TRIETHYLAMINE HYDROCHLORIDE (MPTA).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SYNP7
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Cunningham F.X. Jr., Sun Z., Chamovitz D., F
"Molecular structure and enzymatic function
                        InterPro; IPR000205; NAD_binding
InterPro; IPR000103; Pyridine_rec
PRINTS; PR00469; PNDRDTASEII.
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Bacteria; Cyanobacteria;
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28-FEB-2003
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                                                                                                        EMBL; X74599; CAA52677.1;

    -!- PATHWAY: Carotenoid biosynthesis.
    -!- SIMILARITY: BELONGS TO THE LYCOPENE CYCLASE FAMILY.

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r., Sun Z., Chamovitz D.,
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LMP1 I
POLYLACTOSAMINOGLYCANS.
MEDLINE=91056099, PubMed=2243102;
Carlsson S.R., Fukuda M.,
"The polylactosaminoglycans of human lysosomal lamp-1 and lamp-2. Localization on the peptide J. Biol. Chem. 265:20488-20495(1990).
                                                                                                                                                                                                                                                                                                                                                                                                      Sawada R., Jardine K.A., Fukuda M.;
"The genes of major lysosomal membrane glycoproteins, lamp-1 a lamp-2. 5'. flamking sequence of lamp-2 gene and comparison of organization in two genes.";
J. Biol. Chem. 268:9014-9022(1993).
                                                                                        MEDLINE=90062189; PubMed=2584229; Carlsson S.R., Fukuda M.; "Structure of human lysosomal membrane glycoprotein 1. Assignment disulfide bonds and visualization of its domain arrangement."; J. Biol. Chem. 264:20526-20531(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=93232065; PubMed=8517882; Sawada R., Jardine K.A., Pukuda M.;
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                                                                                                                                                                                                      "Purification and characterization glycoproteins.";
                                                                                                                                                                                                                              Mane S.M., Marzella L.,
Hildreth J.E.K., August
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no wall modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Carlson S.R., Lycksell P.O., Fukuda M.;
Carlson S.R., Lycksell P.O., Eukuda M.;
"Assignment of O-glycan attachment sites to
human lysosomal membrane glycoproteins lamp-
Arch. Biochem. Biophys. 304:65-73 (1993).
-:- FUNCTION: PRESENTS CARBOHYDRATE LIGANDS
IMPLICATED IN TUNOR CELL METASTASIS.
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CARBOHYDRATE-LINKAGE SITES IN HINGE REGION,
MRDLINE=93312023; PubMed=8323299;
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PTM: O- #
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SIMILARITY: BELONGS TO THE LAMP FAMILY.
DATABASE: NAME=PROW; NOTE=CD guide CD107a entry;
WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd107a.htm".
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InterPro; IPR002000; Lamp.
Pfam; PF01299; Lamp:
PRINTS; PR00336; LYSASSOCTDMP.
PROSITE; PS00310; LAMP 1; 2.
PROSITE; PS00311; LAMP 2; 1. MIM, 153330; -.

GO; GO:0005587; C:integral to plasma membrane;
GO; GO:0005764; C:lysosome; TAS.

GO; GO:0005624; C:membrane fraction; TAS. EMBL; J04182; AAA60382.1; EMBL; J03263; AAA59524.1; PIR; A31959; A31959. MIM; Genew; HGNC:6499; LAMP1

CARBOHYD 196 CARBOHYD 198 CCARBOHYD 199 CCARBOHYD 199					CARBOHYD 1	CARBOHYD 1	7	CARBOHYD 1	3	CARBOHYD 1	CARBOHYD 1	CARBOHYD 1	CARBOHYD	CARBOHYD		CARBOHYD	CARBOHYD				C DISULFID 1	DISULFID		C DOMAIN		C DOMAIN '	TRANSMEM :	DOMAIN	.,	CHAIN	SIGNAL	Transmembrane;
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Best Local :
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Submitted (Apr. 2001) to the EMB
Submitted (Apr. 2001) to the EMB
EMBL; BC006785; AAH06785.1; -.
InterPro; IPR00200; Lamp.
Pfam; PF01299; Lamp; 1.
PROSITE; PR00330; LAMP 1; 1.
PROSITE; PS00311; LAMP 2; 1.
NON TER
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Q1-DEC-2001 (TrEMBirel. 19, Created)
Q1-DEC-2001 (TrEMBirel. 19, Last sequence update)
Q1-MAR-2003 (TrEMBirel. 23, Last annotation update)
Q1-MAR-2003 (TrEMBirel. 23, Last annotation update)
Similar to lysosomal membrane glycoprotein 1 (Fragment).
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01-MAR-2002
01-OCT-2002
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                                                                                                                                                Ono K., Han J.;
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AY069968; AAL58070.1; -.
InterPro; IPR002000; Lamp.
Pfam; PF01299; Lamp; 1.
PRINTS; PR012336; LYSASSOCTDMP.
                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse)
Eukaryota; Metazoa; (
Mammalia; Eutheria; )
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Mammalia; Eutheria;
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                                                                                                PROSITE; PS00310; LAMP_1; 2. PROSITE; PS00311; LAMP_2; 1. SEQUENCE 406 AA; 43879 MW;
                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10090;
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; Rodentia;
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Rodentia;
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                   1; Mismatches
                                    Score 35; DB
Pred. No. 11;
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Best Local S
Matches 7
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O34933;
O1-JAN-1998
O1-JAN-1998
O1-JUN-2002
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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01-UN-2001 (TrEMBLrel. 17, Last sequence update)
01-CCT-2002 (TrEMBLrel. 22, Last annotation update)
Lysosomal membrane glycoprotein 1.
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PROSITE; PS00311; LAMP 2; 1.
SEQUENCE 407 AA; 43936 MW;
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Pfam; PF01299; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP.
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STRAIN=C57BL/6J; TISSUE=Lung;
MEDLINE=21085660; PubMed=11217851;
                                      Bacillus subtilis.
Bacteria, Firmicutes;
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NCBI_TaxID=1423;
[1]
                                                                                              YFMD protein.
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Nature 409:685-690(2001).
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                                        Bacillaceae; Bacillus
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RA Azevedo V. Bertero M.G. Bessieres P., Bolotin A.M., Alloni G.,
RA Azevedo V. Bertero M.G., Bessieres P., Bolotin A., Borchert S.,
RA Borriss R., Boursier L., Brans A., Braun M., Brignell S.C., Bron S.,
RA Borriss R., Boursier L., Brans A., Braun M., Brignell S.C., Bron S.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J., Daniel R.A.,
Denizot F., Devine K.M., Dusterhoft A., Ehrlich S.D., Emmerson P.T.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J., Daniel R.A.,
Denizot F., Devine K.M., Dusterhoft A., Ehrlich S.D., Emmerson P.T.,
RA Entian K.D., Errington J., Fabret C., Ferrari B., Follger D.,
RA Entian K.D., Errington J., Fabret C., Ferrari B., Follger D.,
RA Ghim S.Y., Glaser P., Goffeau A., Golightly E.J., Grandi G.,
RA Ghim S.Y., Glaser P., Goffeau A., Golightly E.J., Grandi G.,
RA Ghim S.Y., Glaser P., Goffeau A., Golightly E.J., Grandi G.,
RA Hilbert H., Holsappel S., Hosono S., Hullo M.F., Itaya M., Jones L.,
RA Hilbert H., Holsappel S., Hosono S., Hullo M.F., Itaya M., Jones L.,
RA Kurita K., Lapidus A., Lardinois S., Lauber J., Lazarevic V.,
RA Kurita K., Lapidus A., Lardinois S., Lauber J., Lazarevic V.,
RA Kurita K., Lapidus A., Lardinois S., Lauber J., Nakai S., Noback M.,
RA Parsco L., Pohl T.M., Portetelle B., Roporollik S., Perscott A.M.,
RA Parsco T., Scanlan E., Schleich S., Porwollik S., Prescott A.M.,
RA Prescan E., Pujic P., Purnelle B., Ropoport G., Rey M., Reynolds S.,
RA Sato T., Scanlan E., Schleich S., Schroetter R., Scoffone F.,
RA Schguchi J., Sekowska A., Seror S.J., Seror P., Shin B.S., Soldo B.,
RA Seksychi J., Sekowska A., Seror S.J., Seror P., Shin B.S., Soldo B.,
RA Takeuchi M., Tamakoshi A., Tanaka T., Takahashi H., Takemaru K.,
RA Yoshida K., Yoshikawa H.F., Zumstein E., Yoshikawa H., Danchin A.,
RA Yoshida K., Yoshikawa H.F., Zumstein E., Yoshikawa H., Danchin A.,
RA Yoshida K., Yoshikawa H.F., Schroetter E., Wedler H., Weitzenegger T.,
RT Nature 339:249-256(1997).
                                                                                                                                                                                                                                                                   Matches
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    Q9F1U5;
Q9F1U5;
01-MAR-2001
01-MAR-2001
01-DEC-2001
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"Cloning and sequencing of a 35.7 kb in the 70 degree-73 degree region of the Bacillus subtilis genome reveal genes for a new two-component system, three spore germination proteins, an iron uptake system and a general stress response protein.";
Gene 194:191-199(1997).
EMBL; 299108; CAB1550.1; -.
EMBL; D86417; BAA22318.1; -.
InterPro; IPR000522; FecCD.
PEam; PF01032; FecCD.
                                                                                                                                                                                                                                                                                                                                              ProDom; PD001557; FecCD; 1.
Complete proteome.
SEQUENCE 333 AA; 35098 M
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                                                                                                                                                                                                                                                                                                                                                   333 AA; 35098 MW;
(TremBLrel. 16, Created)
(TremBLrel. 16, Last sequence update)
(TremBLrel. 19, Last annotation updat
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                                                                                    PRELIMINARY;
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Pred. No. 15;
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RESULT 8 Q94C93 ID Q94C

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01-MAY-2000 (TrEMBLrel. 13, La
01-MAR-2003 (TrEMBLrel. 23, La
Receptor-protein kinase-like p:
F26013.190.
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Q9SCZ4;
01-MAY-2000
                                                                                                                                                                                    Pfam; PF00069; pkinase; I.

Prodom; PD000001; Prot kinase; 1.

PROSITE; PS00107; PROTEIN KINASE ATP; 1.

PROSITE; PS50011; PROTEIN KINASE DOM; 1.

PROSITE; PS00108; PROTEIN KINASE ST; 1.

ATP-binding; Kinase; Serine/threonine-protein kinase; 7

SEQUENCE 895 AA; 98149 MM; CFAEFEBES146BC26 CRC64;
                                                                                                                                                                                                                                                                                                                                                                EU Arabidopsis sequencing project;
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ
-:- SIMILARITY: BELONGS TO THE SER/THR FAMILY
EMBL; AL133452; CAB63019.1;
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InterPro; IPR002719; Prot_kinase.
InterPro; IPR002290; Ser_thr_pkinase.
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Lemcke K., Mayer K.F.X.,
Submitted (DEC-1999) to 1
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Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicott; core eudicots; Rosidae;

eurosids_II; Brassicales; Brassicaceae; Arabidopsis.
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Vet. Microbiol. 79:267-274(2001).
EMBL; AB043554; BAB18547.1; -.
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77.8%;
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                                                                                               Score 32; DB 10;
Pred. No. 1.2e+02;
2; Mismatches 1;
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Pred. No. 5.5
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A Goldsmith A.D., Lee J.M., Quach H.L., Tang C., Toriumi M., Yu G.,

A Bowser L., Carninci P., Chen H., Cheuk R., Hayashizaki Y., Ishida J.,

A Jones T., Kamiya A., Karlin-Neumann G., Kawai J., Kim C., Koesema E.,

A Lam B., Lin J., Meyers M.C., Miranda M., Narusaka M., Nguyen M.,

A Palm C.J., Sakurai T., Satou M., Seki M., Shinn P., Southwick A.,

B Shinozaki K., Davis R.W., Ecker J.R., Theologis A.;

"Fell Length cDNA of gene F26013.190/AT3951550 (GI:6572076).";

L Sumiitted (MAY-2001) to the EMEL/GenBank/DDBJ databases.

C. -- SIMILARITY: BELONGS TO THE SER/THR FAMILY OF PROTEIN KINASES.

M ENGL; AY035053; AAK59558 1; --

M InterPro; IPR00270; PROTEIN Kinase.

Pfam; PF00066; pkinase; I.

M PFAM; PF00066; pkinase; I.

M PFAM; PF000107; PROTEIN KINASE ATP; 1.

PROSITE; PS00110; PROTEIN KINASE ATP; 1.

PROSITE; PS00110; PROTEIN KINASE ATP; 1.

PROSITE; PS00110; PROTEIN KINASE ST; 1.

M Hypothetical protein; ATP-binding; Kinase;

W Serine/threonine-protein kinase; Transferase.

SEQUENCE 895 AA; 98191 MW; 200DB3B365971637 CRC64;
                                                  Query Match
Best Local S
Matches 7
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01-NOV-1996
01-NOV-1996
01-MAR-2003
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01-DEC-2001 (TrEMBLrel. 29, Last sequence update)
01-DEC-2003 (TrEMBLrel. 29, Last sequence update)
01-MAR-2003 (TrEMBLrel. 29, Last annotation update)
Hypothetical 98.2 kDa protein.
Arabidopsis thallana (Mouse-ear cress).
Arabidopsis thallana (Mouse-ear cress).
Eukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
eurosids II, Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN=K-12/K-1;
MEDLINE=92138601; PubMed=1735705;
Steenbergen S.M., Wrona T.J., Vimr E.R.;
"Functional analysis of the sialyltransferase coli K1 and K92.";
                                                                                                                                                                             J. Bacteriol. 174:1099-11(
EMBL; M76370; AAA24214.1;
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Enterobacteriaceae; Escherichia.
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                                                                                                                                                     296 AA;
                                                     Conservative
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                                                                                                                                                     35733 MW;
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Pred. No. 65;
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1 O1-JUN-2002 (TrEMBLrel. 21, Created)

1 O1-JUN-2002 (TrEMBLrel. 21, Last sequence update)

1 O1-JUN-2002 (TrEMBLrel. 22, Last annotation update)

1 O1-OCT-2002 (TrEMBLrel. 22, Last annotation update)

2 OSJNBA0026J14.9 protein (CSJNBA0051H17.31 protein).

3 OSJNBA0026J14.9 OR OSJNBA0051H17.31.

3 Cryza sativa (japonica cultivar-group).

3 Cryza sativa (japonica cultivar-group).

4 C Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tebryophyta; Tebryophyta; Tebryophyta; Tebryophyta; Tebryophyta; C Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poace C Spermatophyta; Oryzaa.
                        STRAIN=NCTC 11168;

MEDLINE=20150912; PubMed=10688204;

Parkhill J., Wren B.W., Mungall K., Ketley J.M., Chur Basham D., Chillingworth T., Davies R.M., Felwell T. Jagels K., Karlyhhev A.V., Moule S., Pallen M.J., Pen Quail M.A., Rajandream M.A., Rutherford K.M., van Vli Whitehead S., Barrell B.G.;

"The genome sequence of the food-borne pathogen Campy reveals hypervariable sequences.";

Nature 403:665-688(2000).

EMBL; AL139078; CAB73837.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9PMP4;
01-OCT-2000
01-OCT-2000
01-DEC-2001
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                   Campylobacter jejuni.
Bacteria; Proteobacteria; Epsilonproteobacteria; Campylobacterales;
Campylobacteraceae; Campylobacter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (OCT-2001) to the EMBL/GenBank/DDBJ EMBL; AP004231; BAB89223.1; -. EMBL; AP004232; BAB90716.1; -:
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STRAIN=cv. Nipponbare;
Sasaki T., Matsumoto T., Yamamoto K.;
Sasaki T., Matsumoto T., Yamamoto K.;
"Oryza sativa (japonica cultivar-group)
clone:OSJNBA0025J14 ";
Submitted (OCT-2001) to the EMBL/GenBanl
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Possible polysaccharide CJ1413C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=cv. Nipponbare;
Sasaki T., Matsumoto T., Yamamoto K.;
"Oryza sativa (japonica cultivar-group)
clone:OSJNBa0051H17.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9PMP4
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                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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313 AA;
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yearcharide modification protein.
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a; Poales; Poaceae;
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Penn C.W.,
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Q8EV24;
                                                                                                                                                                    MEDIINE=22354719; PubMed=12466555; Sasaki Y., Ishikawa J., Yamashita A., Oshima K., Kenri 'Sasaki Y., Ishikawa J., Yamashita R., Sasaki T., Hattori M.; Yoshino C., Horino A., Shiba T., Sasaki T., Hattori M.; "The complete genomic sequence of Mycoplasma penetrans, intraceliular bacterial pathogen in humans."; Nucleic Acids Res. 30:5293-5300(2002).

EMBL; AP004173; BAC44537.1;
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01-MAR-2003 (TrEMBLrel.
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EMBL; AF127177; AAD32184.1; -.
SEQUENCE 406 AA; 48449 MW; 99C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mycoplasma penetrans.
Bacteria; Firmicutes;
NCBI_TaxID=28227;
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Genetic organization of the Escherichia coli K10 capsule gene
luster: identification and characterization of two conserved regions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    127
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Bacteria; Firmicutes;
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"A novel mecha
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Matches
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                                                                                "A novel mechanism for control of antigenic variat haemagglutinin gene family of mycoplasma synoviae. Mol. Microbiol. 35:911-923 (2000).
EMBL; AF085697; AAD42254.1;
                                                                                                                                                               SEQUENCE FROM N.A.
STRALN=WVU-1853;
MEDLINE=20156683; PubMed=10692167;
Noormohammadi A.H., Markham P.F.,
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STRAIN=06:H1 / CFT073 / ATCC 700928;

STRAIN=06:H1 / CFT073 / ATCC 700928;

MEDLINE=22388224; PubMed=12471157;

Welch R.A., Burland V., Plunkett G. III, Redford P., Rowelch R.A., Buckles E.L., Liou S.-R., Boutin A., Hackett Rasko D., Buckles E.L., Liou S.-R., Boutin A., Hackett Mayhew G.F., Rose D.J., Zhou S., Schwartz D.C., Perna N Mobley H.L.T., Donnenberg M.S., Blattner F.R.;
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Enterobacteriaceae; Escherichia.
NCBI_TaxID=217992;
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Search completed: January 29, 2004, 14:56:43 Job time: 27.8676 secs

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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

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US-08-073-807A-17
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US-09-114-074-2
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US-09-053-197A-8
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Result No.

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ALIGNMENTS

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APPLICANT: Mayville, Patricia
APPLICANT: Mayville, Patricia
APPLICANT: Mayville, Ratchard P.
APPLICANT: No. 6337385ick, Richard P.
APPLICANT: No. 6337385ick, Richard P.
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PE
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PE
TITLE OF INVENTION: NOVERSR: US/09/339,511
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 1
LENGTH: 9
Sequence 3, Application US/08861476C
Patent No. 64447786
GENERAL INFORMATION:
APPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS
FILE REFERENCE: 63753/7
CURRENT APPLICATION UNMERS: US/08/861,476C
CURRENT FILING DATE: 1997-05-22
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OTHER INFORMATION: Xaa represents any amino acid at this position.
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SEQ ID NOS: 8
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US-08-861-476C-6
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APPLICANT: New York University Medical Center

TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS

FILE REFERENCE: 63753/7
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Matches 8; Conserv
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SOFTWARE:
SEQ ID NO 3
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                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
                                                                                                                                                                  NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                  equence 5, Application US/09339511
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                   FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide
NAME/KEY: VARIANT
LOCATION: (5)
OTHER INFORMATION: Xaa represents any
                                                                                                 ORGANISM: Artificial Sequence
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Mayville, Patricia
No. 6337385ick, Richard
Beavis, Ronald
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             SEQ ID NO 2
LENGTH: 9
                                                                                                        APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
                                                                                                                                                                                                                                                                                     Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
PRIOR FILING DATE: 1998-06-24
                                           NUMBER OF SEQ ID NOS:
SOFTWARE: PatentIn V
                                                                            PRIOR APPLICATION NUMBER: 60/090,402 PRIOR FILING DATE: 1998-06-24
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APPLICANT: Mayville, Patricia
APPLICANT: No. 6337385ick, Ri
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TYPE: PRI
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o. 6337385

    Application US/09339511
    6337385

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85ick, Richard P.
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88.9%;
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
FULL REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILLING ..... NUMBER OF SEQ ID NOS: 8
FILE REFERENCE: 600 CURRENT APPLICATION CURRENT FILING DATE:
                                         APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                      LOCATION: (5)
OTHER INFORMATION: Xaa represents any
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LOCATION: (5)
OCHER INFORMATION: Xaa represents any amino acid at this position
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ID NO 7
                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                     4, AFE
No. 6337385
                                                                                                                                                   INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7, Application US/09339511
5. 6337385
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Muir, Tom

: Mayville, Patricia

: No. 6337385ick, Richard P

: No. Feavis, Ronald
                                                                                                                                                                                                                                                                                                                    Similarity
8; Conserv
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                                                                                                                                                                               Application US/09339511
                                                                                                                                                                                                                                                                                       GVNAXSSLF 9
                                                                                      Muir, Tom
Mayville, Patricia
No. 6337385ick, Richard
Beavis, Ronald
                                                                                                                                                                                                                                                                                                                      Conservative
                            600-1-231N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description of Artificial Sequence: Synthetic peptide
 NUMBER: US/09/339,511: 1999-06-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1998-06-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1999-06-24
RER: 60/090,402
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Pred. No. 2.5e
0; Mismatches
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Pred. No. 2
                                                                                                                                                                                                                                                                                                                       Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                              amino acid
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2.5e+05
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2.5e+05;
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RESULT 10
US-09-882-835-2
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Best Local Similarity
Matches 8; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT FILING DATE: 199-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR RILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NOS: 8
                                        Sequence 2, Applicat Patent No. 6462187 GENERAL INFORMATION:
                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                   Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence 3, Application US/09339511
Patent No. 6337385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT: Bandaru, TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: PRIOR FILING DATE: 1998-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE:
                                                                                                                                                                                                                                                                                         FEATURE:

OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: peptide

NAME/KEY: VARIANT

LOCATION: (5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Xaa represents any amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide
                                                                                                                                                                                                                                                                             OTHER INFORMATION: Xaa represents any amino acid at
                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Artificial Sequence
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8; Conser
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Mayville, Patrici
No. 6337385ick, F
Beavis, Ronald
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                                                                                                                                                                           GVNAXSSLF 9
                                                                         Application US/09882835
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S: 8
Rajasekhar
22109, A NOVEL HUMAN THIOREDOXIN FAMILY
MEMBER AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patricia
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es 0;
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RESULT 12
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; ORGANISM: Homo sapiens
US-09-882-835-2
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                                                                                                                                                 Query Match
Best Local |
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                               Matches
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CURRENT APPLICATION NUMBER: US/09/882,835
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/211,673
PRIOR FILING DATE: 2000-06-15
NUMBER OF SEQ ID NOS: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                               TELEPHONE: (619) 535-9001
TELEPAX: (619) 535-8949
INFORMATION FOR SEQ ID NO: 17
                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31,815
REFERENCE/DOCKET NUMBER: P-LJ 9567
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA;
CURRENT APPLICATION DATA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Lowe, John B.
APPLICANT: Fukuda, Minoru
TITLE OF INVENTION: CELL SURFACE LAMP EXPRESSION
TITLE OF INVENTION: SELECTIN-DEPENDENT ADHESION
NUMBER OF SEQUENCES: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Campbell and Flores
STREET: 4370 La Jolla Village Drive, Suite 700
                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tocal Similarity 66.7%; nes 6; Conservative
                                                                                                                   74.4%;
Local Similarity 66.7%;
les 6; Conservar:..-
                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/073,807A FILING DATE: 08-JUN-1993 CLASSIFICATION: 435
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                                                                                                                                                                                                                                                           ENGTH:
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                                                       263 GMNASSSRF 271
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                                                                                         1 GVNAXSSLF 9
                                                                                                                                                                                                                                   H: 353 amino acids
amino acid
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Pred. No.
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Pred. No. 87;
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                                                                                                                                                               DB 1; Length 353;
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Patent No. 5646248; Patent No. 5646248; Patent INFORMATION:
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Patent No. 5563324
GENERAL INFORMATION:
APPLICANT: Tarczynski, Mitchell C
APPLICANT: Jensen, Richard G.
APPLICANT: Jensen, Richard G.
APPLICANT: Hans J.
ITITLE OF INVENTION: Transgenic Pl.
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/073,807A
FILING DATE: 08-JUN-1993
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Campbell, Cathryn A.
RESERENCE/DOCKET NUMBER: 31.615
REFERENCE/DOCKET NUMBER: 35.7
TELECOMMUNICATION INFORMATION:
COUNTRY: USA
ZIP: 53701-2113
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word, Version #5.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/186,833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (619) 535-9001
TELEPAX: (619) 535-8949
INFORMATION FOR SEQ ID NO: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 380 amino acids
TYPE: amino acid
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Sawada, ALLUMA
APPLICANT: Lowe, John B.
APPLICANT: Fukuda, Minoru
                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: United States
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E OF INVENTION: CELL SURFACE LAMP EXPRESSION AND E OF INVENTION: SELECTIN-DEPENDENT ADHESION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 290 GMNASSSRF 298
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: California
                                                                                                                                                                                                      Madison
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                                                                                                                                                                                                                         E: Quarles & Brady
P.O. Box 2113, Fir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: Campbell and Flores
4370 La Jolla Village Drive, Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                      Tarczynski, Mitchell C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                74.48;
                                                                                                                                                                                                                                                                                                       Transgenic Plants With Enhanced Mannitol
                                                                                                                                                                                                                         First Wisconsin Plaza
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Pred. No. 1e+02;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 380;
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ATTORNEY/AGENT INFORMATION:
NAME: Seay, Nicholas J.
REGISTRATION NUMBER: 2736
REFERENCE/DOCKET NUMBER: 9221
TELECOMMUNICATION INFORMATION:
TELEPHONE: (608) 251-5000
TELEFAX: (608) 251-9166
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 382 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-186-833-2
                                                                              TELEFAX: 810-539-5055;
INFORMATION FOR SEQ ID NO: 2;
SEQUENCE CHARACTERISTICS;
LENGIH: 411 amino acids
TYPE: amino acid
TYPE: amino acid
TOPOLOGY: linear
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-399-561-2
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                                                                                                                                                                                                                                        COUNTRY: US

ZIP: 48334

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IAM PC COMPATIBLE
OPERATING SYSTEM: PC_DOS/MS_DOS
SOCTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/399,561

FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Kohn, Kenneth I.
REGISTRATION NUMBER: D3.955
REFERENCE/DOCKET NUMBER: 9.305 (Hebrew Univ.)
TELECOMMUNICATION INFORMATION:
TELEPHONE: 810-539-5050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, App. No. 57929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 74.4%;
Best Local Similarity 75.0%;
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patent No. 5792903 GENERAL INFORMATION:
                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Hirschberg, Joseph
APPLICANT: Cunningham Jr., Francis X.
APPLICANT: Gantt, Elisabeth
TITLS OF INVENTION: Lycopene Cyclase Gene
NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 800 PRIOR APPLICATION NUMBER:
y Match 74.4%; Score 29; DB 1;
Local Similarity 75.0%; Pred. No. 1.1e+02;
hes 6; Conservative 1; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: Kohn & Associates
STREET: 30500 No. 5792903thwestern Highway, Suite 410
CITY: Farmington Hills
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE
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                                         Length 411;
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Search completed: January 29, 2004, 15:03:20 Job time : 12.1176 secs

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                                                                                                                                                                                                     NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31,815
REFERENCE/DOCKET NUMBER: P-LJ
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 535-9901
TELEPAX: (619) 535-9949
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 416 amino acids
TYPE: amino acid
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-073-807A-2
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                                                                           Best Local Similarity
Matches 6; Conserv
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                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/073,807A FILING DATE: 08-JUN-1993 CLASSIFICATION: 435 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDLIM TYPE: Floppy disk
COMPUTER: LBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                  TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 1:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Campbell:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Sawada, Ritsuko
APPLICANT: Lowe, John B.
APPLICANT: Fukuda, Minoru
TITLE OF INVENTION: CELL SURFACE LAMP EXPRESSION
TITLE OF INVENTION: SELECTIN-DEPENDENT ADHESION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: San Diego
STATE: California
COUNTRY: United States
290 GMNASSSRF 298
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                                    1 GVNAXSSLF 9
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4370 La Jolla Village Drive, Suite 700
                                                                           74.4%;
ilarity 66.7%;
Conservative
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                                                                           1; Mismatches
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                                                                                             Score 29; DB 1;
Pred. No. 1.1e+02;
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Title:
Perfect score:
Sequence:
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Maximum DB
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Maximum Match 100%
Listing first 45 summaries
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seq
    protein search, using
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11 /cgn2_6/ptodata/1/pubpaa/US07 PUBCOMB.pep:*

22 /cgn2_6/ptodata/1/pubpaa/US06 NEW PUB.pep:*

33 /cgn2_6/ptodata/1/pubpaa/US07 NEW PUB.pep:*

44 /cgn2_6/ptodata/1/pubpaa/US07 NEW PUB.pep:*

45 /cgn2_6/ptodata/1/pubpaa/US07 NEW PUB.pep:*

65 /cgn2_6/ptodata/1/pubpaa/US07 NEW PUB.pep:*

66 /cgn2_6/ptodata/1/pubpaa/US08 NEW PUB.pep:*

77 /cgn2_6/ptodata/1/pubpaa/US08 PUBCOMB.pep:*

87 /cgn2_6/ptodata/1/pubpaa/US08 PUBCOMB.pep:*

98 /cgn2_6/ptodata/1/pubpaa/US09 PUBCOMB.pep:*

100 /cgn2_6/ptodata/1/pubpaa/US09 PUBCOMB.pep:*

111 /cgn2_6/ptodata/1/pubpaa/US09 PUBCOMB.pep:*

112 /cgn2_6/ptodata/1/pubpaa/US09 PUBCOMB.pep:*

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114 /cgn2_6/ptodata/1/pubpaa/US09 PUBCOMB.pep:*

115 /cgn2_6/ptodata/1/pubpaa/US108 PUBCOMB.pep:*

116 /cgn2_6/ptodata/1/pubpaa/US108 PUBCOMB.pep:*

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119 /cgn2_6/ptodata/1/pubpaa/US108 PUBCOMB.pep:*

110 /cgn2_6/ptodata/1/pubpaa/US108 PUBCOMB.pep:*

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112 /cgn2_6/ptodata/1/pubpaa/US108 PUBCOMB.pep:*

113 /cgn2_6/ptodata/1/pubpaa/US108 PUBCOMB.pep:*

114 /cgn2_6/ptodata/1/pubpaa/US108 PUBCOMB.pep:*
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length: 2000000000
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Match
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                                        GVNAXSSLF
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Copyright (c) 1993 - 2004 Compugen Ltd
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US-10-201-444-3
US-10-201-444-6
US-10-032-950-5
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US-10-04-378A-131
US-10-04-378A-131
US-10-04-378A-131
US-10-04-93-6227
US-10-032-950-3
US-10-135-586-46
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73.223 Million cell updates/sec
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Sequence 6, Appli
Sequence 5, Appli
Sequence 6, Appli
Sequence 7, Appli
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Sequence 130, App
Sequence 131, App
Sequence 227, App
Sequence 227, App
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-09-978-298A-45	-09-978-188A-45	-09-978-375A-45	-09-978-643A-45	-09-978-187B-45	-09-978-757A-45	-09-999-830A-45	-09-978-193A-4	-09-978-423A-45	-09-918-585A-45	-09-978-824-459	US-09-981-915A-459	-09-999-833A-45	-09-978-564A-45	-09-978-403A-45	-09-978-19TA-45	-09-978-585A-45	-09-978-608A-45	-09-978-189-45	-09-999-832A-4	-09-978-192A-45	-09-978-697-45	-09-938-418-9	-09-978-295A	-10-100-303A-11	-10-243-351-	-10-243-50	-10-371-260-2	-10-371-645-	0-371-069-2
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ALIGNMENTS

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FILE REFERENCE: 600-1-231.

CURRENT APPLICATION NUMBER: US/10/032,950

CURRENT FILING DATE: 2001-12-27

PRICR APPLICATION NUMBER: 60/090,402

PRICR FILING DATE: 1998-06-24

NUMBER OF SEQ ID NOS: 8

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 1

LENGTH: 9

TYDE: PRT

CORGANISM: Artificial Sequence

FEARURE:

OTHER INFORMATION: Description of Artificial Sequence: Synthetic

OTHER INFORMATION: peptide

NAME/KEY: VARIANT

LOCATION: (5)

OTHER INFORMATION: Xaa represents any amino acid at this position.

US-10-032-950-1
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                                                                                 Query Match
Best Local S
Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Muir. Tom
APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453A1ick, Richard P.
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
1 GVNAXSSLF 9
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1 GVNAXSSLF 9
                                                                                 Similarity
9; Conserv
                                                                                   Conservative
                                                                               94.9%; Score 37; DB
100.0%; Pred. No. 7e-
tive 0; Mismatches
                                                                                                     DB 13;
. 7e+05;
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Best Local S
Matches 8
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Publication No. US20030078378A1

GENERAL INFORMATION:

APPLICANT: New York University Medical Center

TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS

FILE REFERENCE: 63753/7

CURRENT APPLICATION NUMBER: US/10/201,444

CURRENT FILING DATE: 2002-07-23

CURRENT FILING DATE: 2002-07-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S.
FILE REFERENCE: 63753/7
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SEQ ID NO 6
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                                                                                                                                           GENERAL INFORMATION
                                                                                                                                                         Sequence 5, Application US/10032950 Publication No. US20020077453A1
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CURRENT FILING DATE: 2002-07-23
PRIOR APPLICATION NUMBER: US/08/861,476
PRIOR FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: US/08/861,476
PRIOR FILING DATE: 1997-05-22
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
                                                                                                  APPLICANT: Muir, APPLICANT: Mayv.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Staphylococcus aureus
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No. US20020077453Alick,
Beavis, Ronald
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Pred. No. 7e+05;
0; Mismatches
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Pred. No.
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                                                                                  Richard
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US-10-032~950-2

Sequence 2, Application US/10032950 Publication No. US20020077453A1 GENERAL INFORMATION:

APPLICANT: Muir, Tom

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Best Local S
Matches 8
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                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 6 LENGTH: 9
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description
OTHER.INFORMATION: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -10-032-950-6
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CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 66/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
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                                                                                                                                                OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
                                                                                                                                                                                                            ORGANISM: Artificial Sequence FEATURE:
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                                                                                                                                   OTHER INFORMATION: Xaa represents any amino
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8; Conservative
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8; Conserv
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                GVNAXSSLF 9
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No. US20020077453Alick,
Beavis, Ronald
GVNAXSALF 9
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                                                           Conservative
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                                                                         87.2%;
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Pred. No.
                                                                             Score 34;
Pred. No.
                                                              Mismatches
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                                                                           7e+05;
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; OTHER INFORMATION: Xaa represents any amino acid
US-10-032-950-7
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CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PACENTIN Ver. 2.0
SEQ ID NO 7
LENGTH: 9
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SEQ ID NO 2
LENGTH: 9
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Best Local
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Best Local
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                                                                      Matches
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TITLE OF INVENTION: NOTERFERENCE
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
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                                                                                                                                                                                                                                                  ORGANISM: Artificial Sequence FEATURE:
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FEATURE:
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                                  GVNAXSSLF 9
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GVNAXSSAF 9
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                                                                      Conservative
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88.9%;
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Pred. No. 7e+0
0; Mismatches
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Pred. No. 7e+05;
0; Mismatches
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7e+05;
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LENGTH: 9
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Matches 8; Conserv
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CURRENT FILLNG DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
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APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453Alick, Richard P.
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
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APPLICANT: Furtak, Kazarzyna
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Description of Artificial Sequ
OTHER INFORMATION: peptide
NAMES/KEY: VARIANT
LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid
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ORGANISM: Artificial Sequence
FEATURE:
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T: Ellerman, Karen
T: Gangolli, Esha A
INVENTION: No. US20030228301A1el Human Proteins, Polynucleotides
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                                                                                                              Lepley, Denise M
Gerlach, Valerie
Edinger, Schlomit
MacDougall, John R
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Shenoy, Suresh G
Grosse, William M
Alsobrook II, John P
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Shimkets, Richard
Guo, Xiaojia Sasha
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Gunther, Erik
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Spytek, Kimberly A
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Tchernev, Velizar T
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Walyankar, Uriel M
                                                         Stone, David J
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100.0%; Pred. No. 7e-
tive 0; Mismatches
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US-10-004-378A-131
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SEQ ID NO 130
LENGTH: 465
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APPLICANT: Fur
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PRIOR FILING DATE: 2000-10-26
PRIOR APPLICATION NUMBER: 60/273,047
PRIOR FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: 60/243,591
PRIOR FILING DATE: 2000-10-26
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PRIOR FILING DATE: 2000-10-24
PRIOR APPLICATION NUMBER: 60/242,767
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PRIOR APPLICATION NUMBER: 60/242,789
PRIOR FILING DATE: 2000-10-24
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PRIOR APPLICATION NUMBER: 60/300,206
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PRIOR FILING DATE: 2000-10-24
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                                                Alsobrook II, John P
Lepley, Denise M
Gerlach, Valerie
Edinger, Schlomit
MacDougall, John R
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Grosse, William M
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Burgess, Catherine E
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Tchernev, Velizar T
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Shimkets, R
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Stone, David J
               Peyman, John A
Gunther, Erik
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Pred. No.
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CURRENT APPLICATION NUMBER: US/10/108,605
CURRENT FILING DATE: 2002-03-27
PRIOR APPLICATION NUMBER: US 09/761,142
PRIOR FILING DATE: 2001-01-16
PRIOR APPLICATION NUMBER: US 60/176,418
PRIOR FILING DATE: 2000-01-14
NUMBER OF SEQ ID NOS: 361
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 227
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NUMBER OF SEQ ID NOS: 191
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 131
LENGTH: 465
TYPE: PRT
ORGANISM: Drosophila melanogaster
US-10-004-378A-131
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; TYPE: PRT
; ORGANISM: Drosophila melanogaster.
; US-10-108-605-227
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PRIOR FILLING DATE: 2000-10-24
PRIOR PELLONG DATE: 2000-10-24
PRIOR PELLONG DATE: 2000-10-24
PRIOR PELLONG DATE: 2000-10-24
PRIOR PELLONG DATE: 2000-10-26
PRIOR APPLICATION NUMBER: 60/243,622
PRIOR APPLICATION NUMBER: 60/273,047
PRIOR APPLICATION NUMBER: 60/273,047
PRIOR FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: 60/243,591
PRIOR APPLICATION NUMBER: 60/243,950
PRIOR FILING DATE: 2000-10-27
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Best Local S
Matches 6
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Query Match 76.9%;
Best Local Similarity 66.7%;
Matches 6; Conservative
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PRIOR FILING DATE: 2000-10-24
PRIOR PELICATION NUMBER: 60/300,206
PRIOR FILING DATE: 2001-66-22
PRIOR APPLICATION NUMBER: 60/242,789
PRIOR FILING DATE: 2000-10-24
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APPLICANT: Bachmann, Jane
APPLICANT: Bachmann, Jane
APPLICANT: Kamdar, Kim
TITLE OF INVENTION: NUCLEIC ACID SEQUENCES FROM DROSOPHILA MELANOGASTER THAT ENCOUNTIED OF INVENTION: PROTEINS ESSENTIAL FOR LARVAL VIABILITY AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08-605-227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           339 GVNLFSSIF 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GVNAXSSLF 9
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5. US20020160934A1
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                             Score 30; DB 14;
Pred. No. 1.4e+02;
                                                       Length 465;
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TYPE: PRT
; ORGANISM: Caenorhabditis elegans
US-10-369-493-6225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-369-493-6225
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                                                                             ; LOCATION: (5); OTHER INFORMATION: US-10-032-950-3
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Best Local
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Query Match
Best Local Similarity
Matches 8; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Cao, Yongwei
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
APPLICANT: Chen, Xianfeng
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(52052)B
FULR REFERENCE: 38-10(52052)B
CURRENT FILING DATE: 2003-02-28
PRIOR APPLICATION NUMBER: US/10/360,039
PRIOR APPLICATION NUMBER: US 60/360,039
PRIOR FILING DATE: 2002-02-21
                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1999-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Muir, Tom
APPLICANT: Mayville, Patricia
APPLICANT: No. USZ0020077453A11ck, Richard
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                                                                                                                                                                                                                                                                            OFTWARE: PatentIn Ver. 2.0
                                                                                                                                       OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         quence 3, Application US/10032950 blication No. US20020077453A1
                                                                                                                                                                                                   ORGANISM: Artificial Sequence FEATURE:
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6; Conserva
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Pred. No. 2e+02;
Score 29; DB 13
Pred. No. 7e+05;
0; Mismatches
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TITLE OF INVENTION: Identification of Essent TITLE OF INVENTION: Prokaryotes FILE REFERENCE: ELITRA.011A

CURRENT APPLICATION NUMBER: US/09/815,242

CURRENT FILING DATE: 2001-03-21

PRIOR APPLICATION NUMBER: 60/206,848

PRIOR FILING DATE: 2000-05-23

PRIOR PPLICATION NUMBER: 60/207,727

PRIOR PPLICATION NUMBER: 60/207,727

PRIOR PPLICATION NUMBER: 60/207,727

PRIOR PPLICATION NUMBER: 60/207,727

PRIOR PILING DATE: 2000-05-26

PRIOR PILING DATE: 2000-05-26

PRIOR APPLICATION NUMBER: 60/242,578

PRIOR APPLICATION NUMBER: 60/253,625

PRIOR APPLICATION NUMBER: 60/253,625

PRIOR PILING DATE: 2000-10-23

PRIOR PILING DATE: 2000-12-2

PRIOR APPLICATION NUMBER: 60/257,931

PRIOR PILING DATE: 2000-12-2

PRIOR APPLICATION NUMBER: 60/263,308

PRIOR APPLICATION NUMBER: 60/263,308
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 46
LENGTH: 332
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Best Local Similarity
Matches 6; Conserv
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APPLICANT: Bandaru, Rajasekhar

APPLICANT: Kapeller-Libermann, Rosana

TITLE OF INVENTION: NOVEL G PROTEIN-COUPLED RECEPTOR FAMILY MEMBERS,

TITLE OF INVENTION: HUMAN THIOREDOXIN FAMILY MEMBERS, HUMAN LEUCINE.

TITLE OF INVENTION: REPEAT FAMILY MEMBERS, AND HUMAN RINGFINGER FAMILY MEMBERS, AND HUMAN RINGFINGER FAMILY MEMBERS, AND HUMAN RINGFINGER FAMILY MEMBERS, TO INVENTION NUMBER: US/10/145,586

CURRENT APPLICATION NUMBER: US/10/145,586
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APPLICANT:
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APPLICANT:
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Haselbeck, Robert APPLICANT: Ohlsen, Kari L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Alexandra Glucksmann, Maria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION:
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Zyskind, Judith W.
Wall, Daniel
Trawick, John D.
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To. US20030138890A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Yamamoto, Robert T
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Pred. No. 1.7e-
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                         Essential
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1.7e+02;
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; NUMBER OF SEQ ID NOS: 14110
; SOFTWARE: FRAESEQ for Windows Version 4.0
; SEQ ID NO 10385
; LENGTH: 362
; TYPE: PRT
; ORGANISM: Escherichia coli
US-09-815-242-10385

Query Match
Best Local Similarity 75.0%; Pred. No. 1.9e+02;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Matches 6; Conservative 1; Mismatches 0; Gaps 0;

QY 1 GVNAXSSL 8
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Db 62 GVNAVSSI 69

Search completed: January 29, 2004, 15:01:44

Job time: 25.5441 secs
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Result
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Maximum DB seq length: 200000000
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Perfect score:
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2: /SIDS1/gcgdata/ge:
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Match
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Maximum Match 100%
Listing first 45 summaries
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Copyright (c) 1993 - 2004 Compugen Ltd
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S. aureus peptide
Cyclic peptide SEQ
AgrD-autoinducing
Staphylococcus aur
Staphylococcus aur
Protected peptide
AgrD2 linear free
AgrD2 lactone cycl
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ALIGNMENTS

ID AAY67852 standard; peptide; 9 AA.

XX AAY67852;

XX 25-APR-2000 (first entry)

XX Staphylococcus aureus infection; cyclic peptide; AgrD; agr response;

XX Staphylococcus aureus.

XX William Staphylococcus aureus.

XX Wiscolic peptide; AgrD; agr response;

XX Wisco

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RESULT 2
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                                   New cyclic infections
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The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of staphylococcus aureus. It is an AgrD-autoinducing peptide, where AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NH2-X(I)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester
                                                                                                                                                                                                    Claim 7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bond, where X is an amino acid, an amino acid analogue, a peptidomimetic or non-amide isostere, Z is a synthetic or a biosynthetic amino acid, n is 0-10 and y is 1-10. The cyclic bond is especially a lactam or lactone bond. The thiololactone structure within native AgrD peptides is required for activation of the agr response. Elimination of the thiol ester component of the cyclic ring structure can destroy agr response activating activity while preserving and enhancing inhibitory activity. A claimed method of preparing a cyclic peptide involves assembling a linear peptide chain on to a solid phase resin support; deprotecting the resulting protected assembled peptide; treating the deprotected peptide with neutral buffer for a time sufficient to form the cyclic peptide and cleave the peptide is useful for and recovering the cyclic peptide. The peptide is useful for information interference, especially for the treatment of S. aureus
            This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                             Muir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Staphylococcus aureus infection; treatment; AgrD; agr response; virulence factor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Staphylococcus aureus
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UNIV NEW YORK STATE.
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                                                                                                                                                                                 22; 37pp;
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100.0%; Pr
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                                                                                                                                                                                    This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Staphylococcus aureus infection; AgrD; agr response; treatment;
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                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                           Examples; Page 22; 37pp; English
                                                                                                                                                                                                                                                                                                                         New cyclic peptides for treating infections with Staphylococcus
                                                                                                                                                                                                                                                                                                                                                                     Muir TW,
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77.8%;
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AAM50907;

AAM50907 standard; Peptide; 9 AA

Matches

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cexample of the preparation of novel synthetic cyclic peptides of the invention (see AAM50899-906). The peptide corresponds to the corresponding inhibitory activity. The cyclic peptides are useful for another corresponds to the corresponds to the corresponding inhibitory activity. The cyclic peptides are useful for another corresponds to the corresponds to the cyclic cycl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Column 14; 18pp;
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peptide"
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Query Match Best Local Similarity

87

Score 34; Pred. No.

DB 23; 9.3e+05;

Length

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GANAXSSLF

Query Match
Best Local S
Matches 7

Similarity 7; Conserv

Conservative

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Score 34; DB 23; Pred. No. 9.3e+05; 0; Mismatches 2

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Indels

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                                                                             thioster peptide. The peptide is derived from the cyclic AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agr3 promoter. This allowed activation or inhibition of the agr promoter. This allowed activation or inhibition of the agr response to be monitored spectrophotometrically. Unlike an AgrD2 thiololactone cyclic peptide (see AAMS1001), the present peptide was unable to either activate or inhibit the agr response, even when added to cultured cells at uM concentrations. The invention when added to cultured cells at uM concentrations. The always of and methods for preparing them. The cyclic peptides are useful for bacterial interference, especially for the treatment of S. aureus
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 1; Column 9; 18pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     subject
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-170774/22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-JUN-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AgrD2; agr infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AgrD2 linear thioester peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence is that of a novel synthetic AgrD2 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UYRQ ) UNIV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GVNASSSLF 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       c response; therapy.
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NEW YORK STATE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Beavis R,
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RESULT 9
AAM51004
ID AAM5
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                                                                                                                                       Query Match
Best Local
                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel synthetic, interference and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Staphylococcus aureus Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAM51003 standard; Peptide; 9 AA.
                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 1; Column
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AgrD2 linear free acid peptide
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                                                                                               μ
                                                                                                                        Similarity 7; Conserv
                                                                                               GANAXSSLF 9
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                                                                                                                                                                                 φ
                                                                                                                          Conservative
                                                                                                                                                                                AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cyclic AgrD-autoinducing peptide for bacterial for treating Staphylococcus aureus infection in
                                                                                                                                                                                                                                                                                                                                                                                                                                                              9; 18pp; English
                                                                                                                                       87.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novick RP,
                                                                                                                          0
                                                                                                                       Score 34; DB 23;
Pred. No. 9.3e+05;
0; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Beavis R,
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AAM51004 standard; Peptide; 9 AA

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GANAXSSLF

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RESULT 10

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Query Match
Best Local S
Matches 7
                                                                                                                               the agrP3 promoter. This allowed activation or inhibition of the agr response to be monitored spectrophotometrically. The lactone AgrD2 peptide inhibited the agr response of group I S. aureus strains without activating the agr response in group I, II or III strains. The invention provides claimed cyclic peptides (see AAM50899-906 and AAM50899) and methods for preparing them, especially peptides where the cyclic bond is a lactam or lactone bond. The cyclic peptides are useful for bacterial interference, especially for the treatment of S. aureus infection.
                                                                                                                                                                                                                                                                                                         The present sequence is that of a novel synthetic AgrD2 lactone cyclic peptide in which residue 5 of the peptide is linked to residue 9 via a lactone bond. The peptide is derived from an AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular procesins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrP3 promoter. This allowed activation or inhibition of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stpahylococcus aureus. Synthetic.
                                                                                        Sequence
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infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 1; Column 9; 18pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-JUN-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AgrD2 lactone cyclic peptide
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7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mayville P,
                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         response; inhibitor; antibiotic; antibacterial; therapy; lactone; cyclic.
  Conservative
                                                                                        AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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5
/note= "note linked
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                     87.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "note linked peptide"
Score 34; DB 23; : Pred. No. 9.3e+05; 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Beavis
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                                             Length 9;
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RESULT 11
AAY67851
ID AAY67857
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Best Local
                                                                                                                                                                                                                                                                                                                                                     The invention relates to the use of autoinducer-2 (AI-2) agonists or antagonists for regulating activity of autoinducer-2 receptor, regulating bacterial growth and pathogenesis. Synergistic antiblotic compositions comprising inhibitors of the quorum-sensing pathway of a microorganism are also provided. Methods using such AI-2 analogues are useful for treating pathogen-associated disease states. The compounds and antibiotic compositions can be used to inhibit bacterial cell growth and/or biofilm formation on a medical device, particularly for promoting growth of skin graft replacements used in the treatment of burns and ulcers. They may also be used to aid wound repair, and to inhibit bacterial cell growth and biofilm formation in or on products or devices used for personal hygiene. The present sequence represents a inhibitor of peptide-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-MAY-2000; 2000US-203000P.
07-DEC-2000; 2000US-254398P.
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                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 33; 134pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Use of autoinducer-2 agonists or antagonists autoinducer-2 receptor, regulating bacterial also antibiotic compositions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2002-075235/10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UYPR-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Autoinducer-2; AI-2; antibiotic; antibacterial; dermatological; vulnerary; pheromone; agr system; accessory gene regulator; cyc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide-mediated quorum sensing inhibitor peptide cyclo-XII.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-MAR-2002
Staphylococcus
                            S. aureus peptide #1 used for bacterial interference.
                                                                                       AAY67851;
                                                          25-APR-2000
                                                                                                                   AAY67851 standard; peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                          quorum sensing.
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) QUOREX PHARM IN
) UNIV TECHNOLOGI
                                                                                                                                                                                            μ
                                                                                                                                                                                                                       1 GANAXSSLF 9
                                                                                                                                                                                                                                                    Similarity 7; Conserv
                                                                                                                                                                                            GVNASSSLF
                                                                                                                                                                                                                                                                                                               9 AA;
                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dammel CS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TECHNOLOGIES
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                                                          (first
   aureus
                                                                                                                                                                                            w
                                                         entry)
                                                                                                                                                                                                                                                                  87.2%;
77.8%;
infection; cyclic peptide; AgrD; agr response;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INT
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                                                                                                                                                                                                                                                    Score 34; DB 23;
Pred. No. 9.3e+05;
0; Mismatches 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shokat K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for regulating activity of growth and pathogenesis,
                                                                                                                                                                                                                                                                                  Length 9;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              regulator; cyclic.
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RESULT 12
AAY67861
ID AAY67
XX AAY67
XX 25-AP
XX Staph
XX Staph
KW Staph
KW Virul
OS Staph
XX Staph
XX Wight
EH Key
FH Misc-
FT Misc-
FT W0996
XX W0996
XX W0996
XX W0996
XX W0996
XX W0996
XX AAY67
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                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                         This sequence represents a cyclic peptide derived from the Staphylococcus aureus AgrD peptide. The invention relates to AgrD derived peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New cyclic peptides for treating infections with Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Muir TW, Mayville P,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     virulence factor; treatment
                                                                               Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
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 24-JUN-1999;
                         29-DEC-1999.
                                                 W09967286-A2
                                                                                                                            Staphylococcus aureus
                                                                                                                                                    virulence
                                                                                                                                                             Staphylococcus aureus infection; AgrD;
                                                                                                                                                                                       Staphylococcus aureus AgrDII derived peptide sequence
                                                                                                                                                                                                                  25-APR-2000
                                                                                                                                                                                                                                         AAY67861;
                                                                                                                                                                                                                                                                   AAY67861 standard; peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                        composition containing them can be used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (UYRQ ) UNIV ROCKEFELLER.
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                                                                                                                                                                                                                                                                                                                                                                                             Local
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8; Conserv
                                                                                                                                                                                                                                                                                                                                                         GANAXSSLF 9
                                                                                                                                                                                                                                                                                                                               GVNAXSSLF
                                                                                                                                                    factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                  9 AA;
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  99WO-US14562
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Pred. No.
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                                                                                                                                                                agr response; treatment;
                                                                                                                                                                                                                                                                                                                                                                                             9.3e+05;
                                                                                                                                                                                                                                                                                                                                                                                                          DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Beavis
                                                                                                                                                                                                                                                                                                                                                                                                          Length 9;
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
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                                                                                                    (MUIR/)
(MAYV/)
(NOVI/)
(BEAV/)
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24-JUN-1999;
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                                       Muir TW,
                                                                                                                                                                                                                                                                    27-DEC-2001; 2001US-0032950
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  2002-681366/73
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                                                                              MUIR T W.
MAYVILLE
NOVICK R
BEAVIS R.
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8; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Page 22; 37pp;
                                       Mayville P,
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NEW YORK STATE.
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                                                                                                                                                                                                                             98US-090402P
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                                         Novick
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Pred. No. 9.3e+05;
0; Mismatches 1
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                                         Ŗ.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aureus; infection;
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                                         Beavis R,
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Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      invention. The present invention also describes a method for treating Staphylococcus aureus infection comprising the administration of a composition comprising (I). (I) has antibacterial activity, and can be used as an agr gene response inhibitor. The peptides are useful for treating S. aureus infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Staphylococcus antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 9; Page 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New cyclic infections
The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response (Staphylococcus aureus. It is an AgrD-autoinducing peptide, where
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                               Claim 7;
                                                                                                                                           Novel synthetic, interference and
                                                                                                                                                                                                    WPI; 2002-170774/22.
                                                                                                                                                                                                                                             Muir TW,
                                                                                                                                                                                                                                                                                                                                             24-JUN-1998;
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8; Conserv
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                                                                                 Column 19;
                                                                                                                                                                                                                                           Mayville P,
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                                                                                                                                                                                                                                                                                 ROCKEFELLER.
NEW YORK STATE.
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                                                                                                                                        cyclic AgrD-autoinducing peptide for bacterial for treating Staphylococcus aureus infection in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             notes
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                                                                               18pp;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "note linked peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "note linked to residue 9 peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96
                                                                                                                                                                                                                                             Novick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "any amino acid"
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Pred. No.
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9.3e+05;
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RESULT 15
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Best Local Similarity

Matches 8; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NHZ-X(n)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester bond, where X is an amino acid, an amino acid analogue, a peptidomimetic or non-amide isostere, Z is a synthetic or a biosynthetic amino acid, n is 0-10 and y is 1-10. The cyclic bond is especially a lactam or lactone bond. The thiololactone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-MAY-2002
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                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                           Staphylococcus aureus; AgrD; agr response; inhibitor; antibiotic; antibacterial; infection; therapy; cyclic.
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                                                                                          08-JAN-2002
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9 9 Matches Query Match Best Local Sequence

Similarity 8; Conserv GANAXSSLF GVNAXSSLF

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Search completed: January 29, 2004, 14:52:10 Job time : 35.0735 secs

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The present sequence is that of a protected peptide used in an ce cample of the preparation of novel synthetic cyclic peptides of the invention (see AAM50899-906). The peptide corresponds to the corresponding corresponds to the corresponding to the corresponding to the corresponding to the correspondent corresponds to the correspondent corresponds to the correspondent corresponds to the correspondent corre
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                                                                                                                                                                                                                                                                                                                                                                                transcription factor AKR - chicken

N;Alternate names: avian knotted-related protein; homeotic protein AKR

C;Species: Gallus gallus (chicken)

C;Date: 28-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 24-Sep-1999

C;Accession: S58439; S58440

R;Ryan, A.K.; Tejada, M.L.; May, D.L.; Dubaova, M.; Deeley, R.G.

submitted to the EMBL Data Library, April 1995

A;Description: Isolation and characterization of the chicken homeodomain protein AKR.
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S58439.
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ALIGNMENTS

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RESULT 2
A28067
A28068
I ysosomal membrane glycoprotein LAMP-1 - mouse
C.Species: Mus musculus (house mouse)
C.Species: Mus musculus (house mouse)
C.Accession: A28067
R.Chen, J.W.; Cha, Y.; Yuksel, K.U.; Gracy, R.W.; August, J.T.
J. Biol. Chem. 263, 8754-8758, 1988
A.Title: Isolation and sequencing of a cDNA clone encoding lysosomal membrane glycopr
A; Accession: A28067; MUID: B8243732; pMID: 3379044
A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Description: negative regulator of apoVLDLII (major egg yolk apolipoprotein) A;Note: expressed in liver during early embryogenesis and in non-hepatic adult C;Superfamily: unassigned homeobox proteins; homeobox homology C;Keywords: DNA binding; homeobox; nucleus; transcription regulation F;36-95/Domain: homeobox homology <HOX>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A,Cross-references: EMBL:U25353; NID:g857681; PIDN:AAA83567.1; PID:g857682 R,Ryan, A.K.; Tejada, M.L.; May, D.L.; Dubaova, M.; Deeley, R.G. Nucleic Acids Res. 23, 3252-3259, D.D.; Public Acids Res. 23, 3252-3259, 1995
A,Title: Isolation and characterization of the chicken homeodomain protein AKR. A,Reference number: S58440, MUID:95396587; PMID:7667102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Function:
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A; Residues: 35-94 < RYF>
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A;Accession: S58439
A;Molecule type: mRNA
A;Residues: 1-269 <RYA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Cross-references: EMBL: U25353
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C;Date: 17-Apr.....4
C;Accession: A60534
R;Heffernan, M.; Yousefi, S.; Dennis, J.W.
Cancer Ree. 49, 6077-6084, 1989
A;Title: Molecular characterization of P2B/LAMP-1, a major;
A;Reference number: A60534; MUID:90002989; PMID:2676155
A;Accession: A60534
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A;Cross-references: GB.J03881; NID:g198706; PIDN:AAA39411.1; PID:g293692
A;Note: the authors translated the codon ATT for residue 1 as Leu and CCG
C;Superfamily: lysosome-associated membrane protein
C;Keywords: glycoprotein; membrane protein
                                                                                                                                                                                      A;Cross-references: EMBL:J03672
A;Note: the authors translated the codon GGG for residue 11
A;Note: the Authors translated the codon GGG for residue 11
R;Himeno, M.; Noguchi, Y.; Sasaki, H.; Tanaka, Y.; Furuno,
FEBS Lett. 244, 351-356, 1989
A;Title: Isolation and sequencing of a cDNA clone encoding
A;Reference number: S03331; MUID:89153580; PMID:2920835
A;Recession: S03331
                                                                                                                                                                                                                                                                                                                                                                                                                                                      120K lysosomal membrane glycoprotein precursor - rat
N,Alternate names: sialoglycoprotein
C;Species: Rattus norvegicus (Norway rat)
C;Date: 18-Oct-1989 #sequence_revision 30-Sep-1991 #text_change
C;Accession: A30200; S03331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Residues: 1-400 cme-associated membrane C;Superfamily: lysosome-associated membrane
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C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change
                                                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1-407 < HOW>
                                                                                                                                                                                                                                                                                                                                                  glycoproteins.
A;Reference number: A30200; MUID:89017240; PMID:3174652
A;Accession: A30200
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A;Residues: 22-407 <HIM>
A;Coss-references: EMBL:X14765; NID:956577; PIDN:CAA32873.1;
A;Cross-references: EMBL:X14765; nID:956577; PIDN:CAA32873.1;
A;Note: part of this sequence, including the amino end of the
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                                                                 ;Superfamily: lysosome-associated membrane protein
;Keywords: glycoprotein; membrane protein
;22-407/Product: lysosomal membrane glycoprotein, 107K #status
                                                                                                                                                                                                                                                                                                                                                                                                     ;Howe, C.L.; Granger, B.L.; Hull, M.; Green, S.A.; Gabel, C.A.; Helenius, A.; roc. Natl. Acad. Sci. U.S.A. 85, 7577-7581, 1988
Title: Derived protein sequence, oligosaccharides, and membrane insertion of
               Query Match
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AgrD protein [imported] - Staphylococcus aureus (strain N315)
C;Species: Staphylococcus aureus
C;Sate: 10-May-2001 #sequence_revision 10-May-2001 #text_change 22-Oct-2001
C;Accession: C89995
R;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.;
Ra, A.; Mizutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu,
C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
Lancet 357, 125-1240, 2001
A;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus.
A;Reference number: A89758; MUID:21311952; PMID:11418146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: mRNA
A;Residues: 1-453 <GBNS
A;Residues: 1-453 <GBNS
A;Cross-references: GB:X59693; NID:g299; PIDN:CAA42214.1; PID:g300
A;Cross-references: GB:X59693; NID:g299; PIDN:CAA42214.1; PID:g300
A;Note: part of this sequence, including the amino end of the mature
A;Note: part of this sequence, including the amino end of the mature
R;Cocco, T.; Lorusso, M.; Sardanelli, A.M.; Minuto, M.; Ronchi, S.; T
Bur: J. Biochem. 195, 731-734, 1991
A;Title: Structural and functional characteristics of polypeptide sub
A;Reference number: S14093; MUID:91153313; PMID:1847870
A;Accession: S14093
                                                                                                                                                                                                                                                                                                                                   A; Molecule type: protein,
A; Residues: 'T', 16-40,'R', 42-46 < COC>
A; Residues: 'T', 16-00,'R', 42-46 < COC>
C; Superfamily: mitochondrial processing peptidase alpha chain C; Keywords: hydrolase; mitochondrial matrix; mitochondrion; oxida C; Keywords: hydrolase; mitochondrial matrix; mitochondrion; oxida C; Keywords: hydrolase; mitochondrion; #statistics core protein T; 1-141/Domain; transit peptide (mitochondrion) #statist p
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Eur. J. Biochem. 199, 123-131, 1991
A;Title: Core I protein of bovine ubiquinol-cytochrome-c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ubiquinol-cytochrome-c reductase (BC 1.10.2.2) core protein II precursor - C;Species: Bos primigenius taurus (cattle) C;Decies: Bos primigenius taurus (cattle) C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 03-Jun-2002 C;Accession: S16221; S14093
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A;Experimental source: strain N315
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A; Residues: 1-47 < KUR>
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hypothetical protein - Synechocystis sp. (strain PCC 6803)
C;Species: Synechocystis sp.
A;Variety: PCC 6803
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000
C;Accession: S76249
C;Accession: S7629, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyajima, N.;
C;Kanako, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyajima, N.;
D;Kanako, T.; Sato, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yasuda
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A;Residues: 1-573 <PAR>
A;Cross-references: GB:AL139077; GB:AL111168; NID:g6968444; PIDN:CAB73354.1; PID:g696853
A;Experimental source: serotype O2, strain NCTC 11168
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A;Title: The genome sequence of the food-borne pathogen Campylobacter jejuni reveals hyp.;Reference number: A81250; MUID:20150912; PMID:10688204
A;Accession: P81313
A;Scatus: preliminary
                                                             hypothetical protein T1611.300 - Arabidopsis thaliana (;Species: Arabidopsis thaliana (;species: Arabidopsis thaliana (mouse-ear cress) c;Pate: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 11-Jun-1999 C;Accession: T04998 C;Accession: T04998 R;Bevan, M.; Obermaier, B.; Deutschenbaur, S.; Piravandi, E.; Hoheisel, J.; submitted to the Protein Sequence Database, November 1998
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C;Superfamily: oligoendopeptidase
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A;Reference number: Z15393
A;Accession: T04998
A;Molecule type: DNA
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A; Residues: 1-340 < KAN>
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77.8%;
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0; Mismatches
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C;Accession: T06165
R;Davies, T.G.E.; Theodoulou, F.L.; Hallahan, D.L.; Forde, B.G. Gene 199, 195-202, 1997
A;Title: Cloning and characterization of a novel P-glycoprotein A;Reference number: Z15500; MUID:98019088; PMID:9358056
A;Accession: T06165
A;Status: preliminary; translated from GB/EMBL/DDBJ
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A;Cross-references: EMBL:AL031394
A;Experimental source: cultivar Columbia;
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A;Residues: 1-1232 cDAV>
A;Residues: 1-1232 cDAV>
A;Cross-references: EMBL:Y10099; NID:g2292906; PIDN:CAA71179.1; PID:g229291
A;Experimental source: cv. Maris Mink
C;Superfamily: multidrug resistance protein; ATP-binding cassette homology
F;381-575/Domain: ATP-binding cassette homology <ABC>
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R;Stover, C.K.; Fham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.; Lory, S.; Olson, M.V.
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A; Note: T16L1.300
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A; Introns: 54/1; 117/3;
                                                                                                                                                                                                                     .; Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
A;Title: Complete genome sequence of Pseudomonas aeruginosa
A;Reference number: A82950; MUID:20437337; PMID:10984043
A;Accession: F83144
                                                                                                                                                                                                                                                                                                                                                   conserved hypothetical protein PA4017 [imported] - C;Species: Pseudomonas aeruginosa C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000
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A;Residues: 1-213 <STO>
A;Cross-references: GB.AE004818; GB:AE004091; NID:g9950200; PIDN:AAG07404.1;
A;Experimental source: strain PAO1
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Similarity 66.7%;
6; Conservation
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R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L. euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, C. Nature 402, 761-768, 1999
A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A;Reference number: A84420; MUID:20083487; PMID:10617197
A;Accession: H84428
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Best Local Similarity
Marches 6; Conserv
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Science 282, 2012-2018, 1998

A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biolog A;Reference number: A75000; MUID:99069613; PMID:9851916

A;Note: see websites genome.wustl.edu/gsc/C_elegans/ and www_sanger.ac.uk/Projects/C_ele A;Note: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; and A;Accession: C89103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein C18B10.10 [imported] - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 10-May-2001
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Apecies: Arabidopsis thaliana (mouse-ear cress)
C;Accession: H84428
C;Accession: H84428
                   R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Be. C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; A.; Ehrlisch, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, Nature 390, 249-256, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: DNA
A;Residues: 1-250 <STO>
A;Cross-references: GB:/
                                                                                                         C; Accession:
                                                                                                                            ferrichrome ABC transporter (permease) homolog yfmD - Bacillus subtilis C;Species: Bacillus subtilis C;Species: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 16-Jun-2000
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Best Local
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6; Conserv
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75.0%;
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Pred. No. 21;
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Search completed: January 29, Job time: 12.1176 secs

2004,

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A;Reference number: Z23013
A;Accession: T45786
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-895 <DEL>
A;Cross-references: EMBL:AL133452
A;Experimental source: cultivar Coll
C;Genetics:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  receptor-protein kinase-like protein - Arabidopsis thaliana N;Alternate names: protein F26013.190 C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 17-Mar-2000 C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 17-Mar-2000 C;Accession: T45786 R;Delseny, M.; Berger, C.; Cooke, R.; Grellet, F.; Laudie, M.; Mewes, H.W.; Lemcke, submitted to the Protein Sequence Database, December 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Experimental source: strain 168 C;Genetics:
A;Gene: yfmD
C;Superfamily: ferrichrome ABC transporter
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A;Residues: 1-333 <KUN>
A;Cross-references: GB:Z99108; GB:AL009126; NID:g2633055; PIDN:CAB12580.1; PID:g26330
A:Exmerimental source: strain 168
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A;Note: F26013.190
C;Superfamily: unassigned Ser/Thr or Tyr-specific protein kinases; protein kinase home
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Pred. No. 69;
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Pred. No. 24;
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Gapop 10.0 , Gapext 0.5
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39
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    SwissProt_41:*
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990655 gallus gall
P114362 rattus musculu
P14562 rattus musculu
P14562 rattus norv
P23004 bos taurus
Q8xa27 escherichia
P59674 escherichia
P59674 escherichia
P31574 escherichia
P31574 escherichia
P31574 escherichia
P31574 escherichia
P391572 synechococc
Q9np35 zz synechococc
Q9np35 homo sapien
Q947125 saccharomyc
P59079 oceanobacil
P404890 drosophila
P25571 saccharomyc
Q9pp16 drosophila
P25571 escherichia
Q9v070 pyrococcus
P49237 zea mays (m
P31164 plycine mays
P49237 zea mays (m
P31164 plycine may
P54687 homo sapien
Q5276 synechococc
P11279 homo sapien
Q928y0 helicobacte
P50610 helicobacte
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Best Local S
Matches 7
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Q90655;
01-NOV-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AKR.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ISSUE=Liver;
                   222 GANAOSGLF 230
                                              1 GANAXSSLF
                                                                             Similarity
7; Conser
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ALIGNMENTS

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DO ARR CHICK

TO 1.700V-1997 (Red. 35. Created)

TO 1.700V-1997 (Red. 35. Last sequence update)

TO 1.700V-1997 (Red. 35. Last sequence update)

TO 1.700V-1997 (Red. 35. Last sequence update)

TO 28-FEB-2003 (Red. 41. Last annotation update)

TO REPER-2003 (Red. 42. Last annotation update)

Gallus gallus (Chicken).

SOS Gallus Julus (Chicken).

CARCHOSOMITA; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;

Gallus Julus (Chicken).

CARCHOSOMITA; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;

Gallus Julus (Chicken).

CARCHOSOMITA; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;

GALLUS.

CO 1. FINCTION NA.

REPER-2036 (S97; PubMed=7667102;

EX MUDLINE-2036 (S97; PubMed=7667102;

EX MUDLINE-2036 (S97; PubMed=7667102;

EX MUDLINE-2036 (S98)

CO 1. FINCTION BINDS TO THE FY

LEUNCHOCKEN BINDS TO THE FY

LEUNCHOLAR LOCATION NUClear

CO 1. SUBCELLULAR LOCATION NUCLEAR

CO 1. SUBCELLURAR LOCATION NUCLEAR

CO 1. SUBCELLURA NUCLEAR

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LMP1_MOUSE
                                                                                                                                                                                    EMBL; M32015; AAA39428.1; -.
EMBL; W35244; AAA39869.1; -.
EMBL; J03881; AAA39411.1; -.
PIR; A28067; A28067.
PIR; A28067; A28067.
PIR; A60534; A60534.
MGD; MG1:96745; Lamp1.
InterPro; IRR002000; Lamp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein 1.",

J. Biol. Chem. 265:7419-7423 (1990).

- FUNCTION: PRESENTS CARBOHYDRATE LIGANDS

- IMPLICATED IN TUMOR CELL METASTASIS.

- I- SUBCELLULAR LOCATION: Type I membrane protein SHUTTHES EPERATE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=90307738; PubMed=2142158; MEDLINE=90307738; PubMed=2142158; Green S.A., Gabel C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 25-406 FROM N.A., AND PARTIAL SEQUENCE.
MEDLINE=88243732; PubMed=379044;
Chen J.W., Cha Y., Yuksel K.U., Gracy R.W., August J.T.;
"Isolation and sequencing of a cDNA clone encoding lysosomal glycoprotein mouse LAMP-1. Sequence similarity to proteins be onco-differentiation antigens.",
J. Biol. Chem. 263:8754-8758(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. Heffernan M., Yousefi Submitted (FEB-1990) t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Characterization and cloning of lgp110, glycoprotein from mouse and rat cells."; J. Biol. Chem. 265:12036-12043(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "IMPI_MOUSE STANDARD; PRT; 406 AA.

191438; Q62020;

01-CCT-1989 (Rel. 12, Created)

01-AUG-1990 (Rel. 15, Last sequence update)

01-NOV-1997 (Rel. 35, Last annotation update)

Lysosome-associated membrane glycoprotein 1 precursor (LAMP-1) (LGP-A)

(LGP-120) (CD107A) (P2B).
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Eukaryota; Metazoa; C
Mammalia; Eutheria; R
                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Arterburn L.M., Earles B.J., August "The disulfide structure of mouse ly
                  Pfam; PF01299; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP.
PROSITE; PS00310; LAMP 1; 2.
PROSITE; PS00311; LAMP 2; 1.
Transmembrane; Glycoprotein; Lysosome; Signal.
SIGNAL
1 24
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- PTM: O- AND N-GLYCOSYLATED; SOME OF THE N-GLYCANS ATTACHED LAMP-1 ARE POLYLACTOSAMINOGLYCANS (BY SIMILARITY).

- I- SIMILARITY: BELONGS TO THE LAMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=90237040; PubMed=2332434;
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Transmembrane;
SIGNAL 25
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PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOS
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Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           i S., Dennis J.W.;
to the EMBL/GenBank/DDBJ databases
LYSOSOME-ASSOCIATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
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Best Local &
Matches
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P14562; P97620;

P14562; P97620;

O1-JAN-1990 (Rel. 13, Created)

O1-JAN-1990 (Rel. 13, Last sequence update)

O1-NOV-1997 (Rel. 35, Last annotation update)

Lysosome-associated membrane glycoprotein i precursor (LAMP-1)

Lysosomal membrane glycoprotein) (LGP-120) (CD107A).
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CARBOHYD
SEQUENCE OF 22-407 FROM N.A. MEDILINE=89153580; PubMeda-29208 Himeno M., Noguchi Y., Sasaki Sakaki Y., Kato K.; "Isolation and sequencing of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
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                                                                "Derived protein sequence, oligosaccharides, and membrane insertiof the 120-kDa lysosomal membrane glycoprotein (lgp120): identification of a highly conserved family of lysosomal membrane
                                                                                                                                             Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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                                                  glycoproteins.";
Proc. Natl. Acad.
                                                                                                            SEQUENCE FROM N.A. MEDLINE=89017240;
                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
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                                                                                             Mellman I.,
                                                                                                    Howe C.L.,
                                                                                                                                    NCBI_TaxID=10116,
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                                                                                                                                                                                                                                                                                                              Similarity 7; Conserv
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115
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sequencing of a cDNA
             07 FROM N.A.
PubMed=2920835;
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r B.L., Hull M.,
                                                  Sci. U.S.A.
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77.8%;
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CYTOPLASMIC (POTENTIAL).

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SECOND LUMENAL DOMAIN.
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LF -> IP (IN REF. 3).
V -> I (IN REF. 2 AND 3).
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N-LINKED
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Pred. No. 2
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                                                   85:7577-7581(1988)
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                 Tanaka Y., Furuno K.,
                                                                                                    Green S.A.,
clone encoding 107 kDa
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EMBL; X14765; CAA32873.1; -.
EMBL; U75406; AAB19108.1; -.
PIR; A30200; A30200.
InterPro; IPR002000; Lamp.
Pfam; PF01299; Lamp; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 283-357 FROM N.A.

STRAIN=Wistar Kycto; TISSUE=Acartic smooth muscle;

Adams L.A., Werny I., Schwarrz S.M.;

Submitted (OCT-1996) to the EMBL/GenBank/DDBJ databases.

1- FUNCTION: PRESENTS CARBOHYDRATE LIGANDS TO SELECTINS.

IMPLICATED IN TUNOR CELL METASTASIS.

-1- SUBCELLULAR LOCATION: Type I membrane protein. Lysosom
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FEBS Lett. 244:351-356(1989).
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                                                                                                                                                                                                                                                                                                                                                                                   Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS00310; LAMP_1; 2. PROSITE; PS00311; LAMP_2; 1.
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Similarity
7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                              PR00336; LYSASSOCTDMP
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70
                                      Glycoprotein; Lysosome; Signal.
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         84.6%;
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                                      MW;
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CYTOPLASMIC (P
FIRST LUMENAL
Score 33; DB Pred. No. 2.8; 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           lysosomal membranes.";
                                     -> T (IN REF. 3).
D -> VT (IN REF. 1
25947490749A7C88
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TRESULT 4

UCR2 B
AC P232004
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Mammalia; Eutheria;
Bovidae; Bovinae; Bo
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01-JUL-1993 (Rel. 26, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Ubiquinol-cytochrome C reductase complex core protein
precursor (EC 1.10.2.2) (Complex III subunit II).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=88298703; pubMed=2841307;
Capaldi R.A., Gonzalez-Halphen D.,
"Complexity and tissue specificity
Chain.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gencic S., Schaegger H., von Jagow G.;
"Core I protein of bowine ubiquinol-cytochrome-c reductase; an additional member of the mitochondrial-protein-processing family. Cloning of bowine core I and core II cDNAs and primary structure of the mitochondrian control of the mitochon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bos taurus
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                                                                                                                                                                                                                                                                                                               bc1 complex.",
Science 281:64-71(1998).
Science 281:64-71(1998).
Cience 281:64-71(1998).

-i- FUNCTION: THIS IS A COMPONENT OF THE UBIQUINOL-CYTOCHROME C
REDUCTASE COMPLEX (COMPLEX III OR CYTOCHROME B-C1 COMPLEX), WHICH
IS PART OF THE MITOCHONDRIAL RESPIRATIONY CHAIN. THE CORE PROTEIN
IS PART OF THE MISOCHONDRIAL RESPIRATIONY CHAIN. THE CORE PROTEIN
2 IS REQUIRED FOR THE ASSEMBLY OF THE COMPLEX.
2 IS REQUIRED FOR THE ASSEMBLY OF THE COMPLEX.

-i- CATALYTIC ACTIVITY: QH(2) + 2 ferricytochrome c = Q + 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=98316377; PubMed=9651245;
IWATE S., Lee J.W., Okada K., Lee J.K., Iwata M., Rasmusser Link T.A., Ramaswamy S., Jap B.K.;
"Complete structure of the 11-subunit bovine mitochondrial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDILINE-89062436; PubMed=2848575;
Gonzalez-Halphen D., Lindorfer M.A.,
"Subunit arrangement in beef heart o
Biochemistry 27:7021-7031(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cloning of bovi
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Deisenhofer J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=97349328;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 15-43.
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ferrocytochrome G.
SUBUNIT: BCI COMPLEX CONTAINS 11 SUBUNITS; 3 RESPIRE
SUBUNIT: BCI COMPLEX CONTAINS 11 SUBUNITS; 3 RESPIRE
(CYTOCHROME B, CYTOCHROME C1, RIESKE PROTEIN), 2 COR
6 LOW-MOLECULAR WEIGHT PROTEINS.
SUBCELLULAR LOCATION: Mitochondrial inner membrane;
SUBCELLULAR LOCATION: Mitochondrial inner membrane;
SIMILARITY: BELONGS TO PEPTIDASE FAMILY M16.
CAUTION: DOES NOT SEEM TO HAVE A PROTEASE ACTIVITY F
ZINC-BINDING SITE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            J. Biochem. 199:123-131(1991)
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A., Kim H., Xia J.Z.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20:291-311(1988).
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                                                                                                                                                                                                       RESPIRATORY SUBUNITS
, 2 CORE PROTEINS AND
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between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for come entitles requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
MEROPS; M16.974; ...
InterPro; IRR001431; Peptidase M16.
Pfam; PF00675; Peptidase M16; I.
Pfam; PF005193; Peptidase M16 C; I.
PROSITE; PS00143; INSULINASE; I.
Mitochondrion; Inner membrane; Electron transport; Respiratory chain; Oxidoreductase; Transit peptide; 3D-structure.
TRANSIT 1
MITOCHONDRION.

MITOCHONDRION.

MITOCHONDRION.
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1BGY; 23-FEB-99.
1BE3; 16-FEB-99.
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ZPBOC2
UBIQUINOL-CYTOCHROME C CORE PROTEIN 2.
T -> R.
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                                                                                                                                                                                                                                                     REDUCTASE COMPLEX
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Best Local &
Matches
EMBL; AE005181; AAG54345.1; -. EMBL; AP002550; BAB33468.1; -. . PIR; E85485; E85485. PIR; E90634; E90634. HAMAP; MF_01056; -; 1. InterPro; IPR001308; ETF_alpha. Pfam; PF00766; ETF_alpha; 1. PROSITE; PS00696; ETF_ALPHA; 1. Electron transport; FTavoprotein; FA
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Q8XA27;
15-SEP-2003
15-SEP-2003
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HELIX
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIINE-21156231; PubMed=11258796;
Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoyi Hayashi T., Makino E., Uahkayama K., Murata T., Tanaka M., Tobe Tida T., Takami H., Honda T., Sasakawa C., Ogasawara N., Yasuna; Kuhara S., Shiba T., Hattori M., Shinagawa H.;
"Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and genomic comparison with a laboratory strain K-12.";
DNA Res. 8:11-22(2011)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=21074935; PubMed=11206551;
Perna N.T., Plunkett G. III, Burland V., Mau B., Glasner J.D.,
Rose D.J., Mayhaw G.F., Evans P.S., Gregor J., Kirkpatrick H.A.,
Posfai G., Hackett J., Klink S., Boutin A., Shao Y., Miller L.,
Grotbeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamousis K.,
Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C.,
Welch R.A., Blattner F.R.;
"Genome sequence of enterchaemorrhagic Escherichia coli O157:H7.";
                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collabora between the Swiss Institute of Bioinformatics and the EMBL outstatisthe European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commers entities requires a license agreement (See http://www.isb-sib.ch/annou or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -!- FUNCTION: Required for anaerobic carnitine reduction. May bring reductant to caiA (By similarity).
-!- PATHWAY: Carnitine metabolism (conversion of carnitine to gamma)
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STRAIN=0157:H7 / E
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Enterobacteriaceae; Escherichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FixB protein.
FIXB OR Z0048 OR ECS0045.
Escherichia coli 0157:H7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBUNIT: Heterodimer of fixA and fixB (By similarity). SIMILARITY: BELONGS TO THE ETF ALPHA-SUBUNIT / FIXB FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               butyrobetaine).
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(Rel. 42, Last sequence update)
(Rel. 42, Last annotation update)
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Pred. No.
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Tobe T.,
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MEDLINE=22388234; PubMed=12471157;

Welch R.A., Burland V., Plunkett G. III, Redford P., Roesch Rasko D., Bucklee E.L., Liou S.-R., Boutin A., Hackett J., S. Mayhew G.F., Rose D.J., Zhou S., Schwartz D.C., Perna N.T., Mobley H.L.T., Donnenberg M.S., Blattner F.R., "Extensive mosaic structure revealed by the complete genome of uropathogenic Sscherichia coli.";

Proc. Natl. Acad. Sci. U.S.A. 99:17020-17024(2002).
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15-SEP-2003
15-SEP-2003
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                                                                                                                                                                                                                                                                                      Plunkett G. III;
Unpublished observations (APR-2003).
-I- FUNCTION: Required for anaerobic
reductant to caiA (By similarity)
-I- PATHWAY: Carnitine metabolism (co
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NCBI_TaxID=217992;
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                                                                                          EMBL; AE016755; -; NOT_ANNOTATED_CDS.
HAMAP, MF 01056; -; 1.
PROSITE; PS00696; ETF ALPHA; 1.
Electron transport; Plavoprotein; FAD; Complete proteome NP_BIND 25 283 FAD (ADP PART) (POTENTIAL).
SEQUENCE 313 AA; 33512 MW; A960554200E4D14D CRC64;
                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a obetween the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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STRAIN=06:H1 / CFT
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SUBUNIT: Heterodimer of fixA and fixB (By similarity).
SUBUNIT: Heterodimer of fixA and fixB (By similarity).
SIMILARITY: BELONGS TO THE ETF ALPHA-SUBUNIT / FIXB FAMILY.
CAUTION: When this sequence was assembled, the third base of CAUTION: When this sequence was assembled, one.

137 was missed, generating two ORFs instead of one.
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OR C0051/C0052.
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EMBL; X71977; CAA50798.1; --
EMBL; D10483; -; NOT ANNOTATE
EMBL; AD000114, AAC73153.1; --
PIR; B64725; B64725.
H3SP; P38974; 1EFP.
HAMAP; MF 01055; -; 1.
EcoGene; EG11563; fixB.
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01-OCT-1996
15-SEP-2003
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Gregor J., Davis N.W., ALLAND
Mau B., Shao Y.;
"The complete genome sequence
Science 277:1453-1474(1997).
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STRAIN-KI2 / MG1655;
MEDLINE=91426617; PubMed=9278503;
MEDLINE=91426617; PubMed TII, Bloch C.A., Perna N.T., Burland Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F. Riley M., Collado-Vides J., Glasner J.D., Rodeden M.A., Rose D.J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yura T., Mori H., Nagai H., Mayara I., Isono K., Mizobuchi K., Nakata A.;
"Systematic sequencing of the Escherichia coli
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Eichher K., Buchet A., Bourgis F., Kleber
Mandrand-Berthelot M.-A.;
"The fix Escherichia coli region contains
carnitine metabolism.";
                                                                  This SWISS-PROT entry is copyright. It is produced through a cobetween the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                            Walt A., Kahn M.L.;
"The fixA and fixB genes are necessary reduction in Escherichia coli.";
J. Bacteriol. 184:4044-4047(2002).
-!- FUNCTION: Required for anaerobic careductant to CaiA.
-!- PATHWAY: Carnitine metabolism (conv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=92334977; PubMed=1630901;
Yura T., Mori H., Nagai H., Nagata T.,
Isono K., Mizobuchi K., Nakata A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the 0-2.4 min region.";
Nucleic Acids Res. 20:3305-3308(1992)
                                                                                                                                                                                                                                                                    butyrobetaine).
SUBUNIT: Heterodimer of fixA and fixB (probable)
SUBUNIT: Heterodimer of fixA and fixB (probable)
SIMILARITY: BELONGS TO THE ETF ALPHA-SUBUNIT / F
CAUTION: Ref.2 sequence differs from that shown
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Pfam; PF00766; ETF alpha; 1.
PROSITE; PS00696; ETF ALPHA; 1.
Electron transport; Flavoprotein;
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"Genome sequence of Shigella flexneri 2a: insig through comparison with genomes of Escherichia Nucleic Acids Res. 30:4432-4441(2002).
                                      EMBL; AE015041; AAN41705.1; ALT_SEQ.
HAMAP; MF 01056; -; 1.
PROSITE; PS00696; ETF_ALPHA; 1.
Electron transport; Flavoprotein; FAD.
NP_BIND 25
283 FAD (ADP PART) (POT NP_BIND 25
313 AA; 33483 MW; 416CFEC6F0994066
                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a clothern the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatice Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and for entitles requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
STRAIN=301 / Serotype 2a;
STRAIN=301 / Serotype 2a;
MEDLINE=22272406; PubMedel12384590;
MEDLINE=22272406; PubMedel12384590;
Yang C., Yuan Z., Xu J., Wang Y., Shen Y., Lu W., Wang J., Liu H.
Yang J., Yang F., Zhang X., Zhang J., Yang G., Wu H., Qu D., Do
Yang J., Yang F., Zhang X., Zhu J., Kan B., Ding K., Chen
Sun L., Xue Y., Zhao A., Gao Y., Zhu J., Kan B., Ding K., Chen
Cheng H., Yao Z., He B., Chen R., Ma D., Qiang B., Wen Y., Hou
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Shigella flexneri.
Shacteria, Proteobacteria, Gammaproteobacteria, Enterobacteriales,
Enterobacteriaceae, Shigella.
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15-SEP-2003 (Rel. 42, Last seq
15-SEP-2003 (Rel. 42, Last ann
                                                                                                                                                                                                                                                                                                                           -!- PATHWAY: Carnitine metabolism (conversion of Carnitine
                                                                                                                                                                                                                                                                                                                                                                                                     CONCEPTUAL
                                                                                                                                                                                                                                                           butyrobetaine).
SUBUNIT: Heterodimer of fixA and fixB (By similarity).
SIMILARITY: BELONGS TO THE ETF ALPHA-SUBUNIT / FIXB FAMILY.
CAUTION: This is a conceptual translation; a stop codon in
position 264 was translated as Gln to maximize the similarity
                                                                                                                                                                                                                                                                                                                                     WILISING OBSERVATIONS (APR-2003).

FUNCTION: Required for anaerobic carnitine reductant to caiA (By similarity).

PATHWAY: Carniting Translation
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OR SF0039.
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5; Conser
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42
313 AA;
                                                                                                                                                                                                                                                                                                                                                                                                      TRANSLATION
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33513 MW;
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 74.48;
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Last annotation updat
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Score
Pred.
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 DB
19;
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ichia coli K12
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                                                                                                                                                    http://www.isb-sib.ch/announce/
                                         (POTENTIAL)
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             Length 313
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                                                                                                                                                                                                            a collaboration -
MBL outstation -
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Pfam; PF01299; Lamp, 1.
Pfam; PF01299; Lamp, 1.
PROSITE; PR00336; LYSASSOCTDMP,
PROSITE; PS00310; LAMP_1; 2.
PROSITE; PS00311; LAMP_2; 1.
Transmembrane; Glycoprotein; Ly:
SIGNAL 22 407 LY:
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P49129;
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TRANSMEM
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01-FEB-1996 (Rel. 33, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
Lysosome-associated membrane glycoprotein 1 p
(Lysosomal membrane glycoprotein A) (LGP A).
LAMPI OR LGPA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRIGR
 CARBOHYD
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                  CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                EMBL; L18986; AAC37682.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        membrane glycoproteins.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Uthayakumar S., Granger B.L.;
"Cell surface accumulation of overexpressed hamster lysosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=97021428;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10029;
                                                                           CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. MOI. BIOI. Res. 41:405-420(1995).

FUNCTION: PRESENTS CRARECHYDRATE LIGANDS TO SELECTINS. ALSO
IMPLICATED IN TUMOR CELL METASTRASIS (BY SIMILARITY).

SUBCELLULAR LOCATION: Type I membrane protein. Lysosomal.
THIS PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOSOMES, AND THE
MEMERANE (BY SIMILARITY).

PTM: O- AND N-GLYCOSYLATED; SOME OF THE N-GLYCANS ATTACHED
LAWP-1 ARE POLYLACTOSAMINOGLYCANS (BY SIMILARITY).

SIMILARITY: BELONGS TO THE LAMP FAMILY.
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  STANDARD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=8867788;
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SECOND LUMENAL DON
BY SIMILARITY.
BY SIMILARITY.
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BY SIMILARITY.
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POTENTIAL:
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FIRST LUMENAL D
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BY SIMILARITY.
LYSOSOME-ASSOCIATED
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RESULT 10
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Cederberg H., Hom
Cederberg F.K.;
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P25623; P25622;
01-MAY-1992 (Rel. 22, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypothetical 96.1 kDa protein in RIM1-RPS14A intergenic
YCR030C OR YCR30C/YCR29C.
                                                                                                                                                        EMBL; X59720; CAA42322.1; -. PIR; S74291; S74291. SGD; S0000626; YCR030C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina;
Saccharomycetales; Saccharomycetaceae; Saccharom
NCBI_TaxID=4932;
                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                   Gromadka R.;
Submitted (J)
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                                                                                                                           Hypothetical SEQUENCE 8
                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted
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SIMILARITY: SOME, TO
755
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                              GANAXSSL
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GANATSAL
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870 AA; 96125 MW;
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66.7%;
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                                                                                                                                                                                                                                                                                                                                                     the EMBL/
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                                                                                                                                                                                                                                                                                                                                                    EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 29; DB
Pred. No. 26;
0; Mismatches
                                                          Score 29; DB Pred. No. 59; 1; Mismatches
                                                             <u>ب</u>
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                                                                                            Length 870;
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RESULT

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P45469;
01-NOV-1995
16-OCT-2001
16-OCT-2001
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SERAIN=K12 / MG1655;

MEDLINE=97426617; PubMed=9278503;

MEDLINE=97426617; PubMett G. III, Bloch C.A.

Riley M., Collado-Vides J., Glasner J.D.,

Riley M., Collado-Vides J., Glasner J.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GPDA SYNP7
Q935Z2;
28-FEB-2003
15-SEP-2003
                                                                                                                                              Holtman C.K., Socias T., Plouderian P.;
Youderian P.;
"Synechococcus elongatus PCC7942 genome sequence, cosmid "Synechococcus elongatus PCC7942 GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-SEP-2003 (Rel. 42, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Glycerol-3-phosphate dehydrogenase [NAD(P)+]
dependent glycerol-3-phosphate dehydrogenase)
GPSA OR SEA0004.
REVISIONS TO 196 AND 247.

REVISIONS TO 196 AND 247.

YOUNDERING TO., Socias T., Mohler B.J., Chen Y., Younderian P., Sandoval P., Gonzalez A., Salina Submitted (NOV-2002) to the EMBL/GenBank/DDBJ-1- CATALYTIC ACTIVITY: Sn-glycerol 3-phosphate glycerone phosphate + NAD(P)H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; U18997; AAA57955.1; ALT_INIT.
EMBL; AE000396; AAC76186.1; ALT_INIT.
EcoGene; EG12783; yraR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hypothetical pyrar OR B3152
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hypothetical protein; Complete proteome. SEQUENCE 211 AA; 23198 MW; 5E3793BBADC891FF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria; Proteobacteria; Gammap
Enterobacteriaceae; Escherichia
                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "The complete genome sequence of Escherichia coli K-12."; Science 277:1453-1474(1997).
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.D., Rode C.K., Ma;
A., Goeden M.A., R
                                                                                       Chen Y., N., Salinas
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Best Local S
Matches 6
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HAMAD; MF 00394; -; 1.

InterPro; IPR006168; NAD Gly3P dh.

InterPro; IPR006109; NAD Gly3P dom.

Pfam; PF01210; NAD Gly3P dh; 1.

PROSITE; PS00957; NAD G3PDH; 1.

Phospholipid biosynthesis; Oxidoreduc SEQUENCE 308 AA; 32263 MW; 6D9526
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between the Swiss I
the European Bioinfo
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28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Mitochondrial 285 ribosomal protein S30 (S30mt)
cell death protein 9) (BM047).
MRPS30 OR PDCD9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                            MEDIINE-21154917; PubMed=11230166; MEDIINE-21154917; PubMed=11230166; Wiemann S., Weil B., Wellenreuther R., Gassenhuber J., Blum H., Ansorge W., Boecher M., Bloecker H., Bauersachs S., Blum H., Lauber J., Duesterhoeft A., Beyer A., Koehrer K., Strack N., Mewes H.-W., Ottenwaelder B., Obermaier B., Tampe J., Heubner Wambutt R., Korn B., Klein M., Poustka A.; "Towards a catalog of human genes and proteins: sequencing and analysis of 500 novel complete protein coding human cDNAs."; Genome Res. 11:422-435(2001).
                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A., AND TISSUE SPE
MEDITUS=20108792, PubMed=10640817;
Carim L. Sumoy L. Nadal M. Esti
"Cloning, expression, and mapping,
                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                   Cytogenet.
[2]
                                                                                                                                                                                                                                                                                                                                 Gallus
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SEQUENCE FROM N.A.
TISSUE=Teratocarcinoma;
Isogai T., Ota T., Nishikawa
                                                                                                                                                                                                                                                   Carim L.,
Submitted
                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                              "Cloning, exp
Gallus gallus
                                                                                                                                                                                                      TISSUE=Kidney;
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formation.
SUBCELLULAR LOCATION: C
SIMILARITY: BELONGS TO
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ed (MAY-2000) to
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expression, and mapping of PDCD9,
lus pro-apoptoric protein p52.";
Cell Genet. 87:85-88(1999).
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75.0%;
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THE NAD-DEPENDENT GLYCEROL-3-PHOSPHATE
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MW; 6D9526DF5A8C8A77 CRC64;
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Pred. No. 33;
1; Mismatches
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Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                            SPECIFICITY.
   Hayashi
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33;
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   Otsuki T.,
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     Sugiyama
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RC TISUE-Muscle;

RX MEDIINS-22388257, PubMed=12477932;

RX MEDIINS-22388257, PubMed=12477932;

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Shat N.K.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Shat N.K.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Shat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Raha S.S., Loquellano N.A., Peters G.J., Malek J.A., Gunaratne P.H.,

RA Raha S.S., Loquellano N.A., Peters G.J., Malek J.A., Gunaratne P.H.,

RA Rodards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Pahey J., Helton E., Kettman M., Madan A., Rodrigues S., Sanchez A.,

RA Pahey J., Helton E., Kettman M., Madan A., Rodrigues S., Sanchez A.,

RA Pahey J., Halton E., Kettman M., Madan A., Rodrigues S., Sanchez A.,

RA RA Raha S.S., Company J.W., Green E.D., Dickson M.C.,

RA Radriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RGeneration and initial analysis of more than 15,000 full-length

human and mouse cDNA sequences.",

RT Mana Radrigues C.M. Althouse CDNA sequences.",

RT Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-21276436; PubMed=11279123;

KCOC E.C., Burkhart W., Blackburn K., Moseley A., Spremulli L.L.;

KCOC E.C., Burkhart W., Blackburn K., Moseley A., Spremulli L.L.;

"The small subunit of the mammalian mitochondrial ribosome:
identification of the full complement of ribosomal proteins prese

J. Biol. Chem. 276:19363-19374(2001).

J. SUBUNIT: Component of the mitochondrial ribosome small subuni

(288) which comprises a 12S rRNA and about 30 distinct protei

(288) which comprises a 12S rRNA and about 30 distinct protei

-!- SUBCELLULAR LOCATION: Mitochondrial.

-!- TISSUE SPECIFICITY: Heart, Skeletal muscle, kidney and liver.

LOWER expression in placenta and peripheral blood leukocytes.

-!- CAUTION: Ref. 6 sequence differs from that shown due to a numb

sequencing errors that include frameshifts.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          [6]
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Zhao M., Gu J., Li N., Peng Y., Han Z., Chen Z
Thao Ne, Gu J., Li N., Peng Y., Han Z., Chen Z
"A novel gene expressed in human bone marrow."
Submitted (DEC-1999) to the EMBL/GenBank/DDBJ
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v.";
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18., Sasal
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Jahari K.,
Sasaki N.,
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EMBL; AF146192; AAF65227.1; -.
EMBL; AL355715; CAB90810.1; -.
EMBL; AL355716; CAB90811.1; -.
EMBL; AL357016; CAB60811.1; -.
EMBL; AK074777; BAC11202.1; -.
EMBL; AK074777; BAC11202.1; -.
EMBL; AF0217523; AAF67634.1; ALT_FRAME.
GRIEW; HGNC: 8799; MRPS30.
GO; GO:0006915; P:apoptosis; TAS.
Ribosomal protein; Mitochondrion.
CONFLICT 82 82 82 8-> C (IN SEQUENCE 439 AA; 50348 MW; ADD564743 This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (see http://www.isb-sib.or send an email to license@isb-sib.ch). S -> C (IN REF. 4 I I -> V (IN REF. 3). ; AD0564743E03290C 4 AND 3). CRC64; restrictions for .ch/announce/ outstation ä ö g

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RA Arzakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaldo I., Pesole G., Quackembush J.,
RA Schriml L.M., Staubhi F., Suzuki R., Tonita M., Wagner L., Washio T.,
RA Schriml L.M., Staubhi F., Suzuki R., Tonita M., Wagner L., Washio T.,
RA Schriml M., Staubhi F., Suzuki R., Tonita M., Wagner L., Washio T.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Blake J., Boffelli D., Hofman M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofman M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofman M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Sasaki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA Havashizaki Y..,
RA Havashizaki Y..,
                                                                                                                                          RP SEQUENCE FROM N.A.

RP SEQUENCE FROM N.A.

REDIINE=22386257; PubMed=12477932;

RX MEDLINE=22386257; PubMed=12477932;

RX MEDLINE=22386257; PubMed=12477932;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Klausner R.D., Collins F.S., Wagner L., Schaefer C.F., Bhat N.K.,

RA Altschenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan R., Farmer A.A., Rubin G.M., Hong L.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Vecterran K.J., Abramson R.D., Mullahy S.J.,

RA Raha S.S., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Villalon D.K., Muzny D.M., Sodergren E.D., Buffard G.G.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalaka U., Smailus D.E.,

RA Generation and initial analysis of more than 15,000 full-length

Brown Maria M.A., Maria M.A., Stanchez D.M. See CDNA sequences ".

Brown Maria M.A., Stanchez D.M. See CDNA sequences ".

Brown Maria M.A., Stanchez D.M. Stanchez D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
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(9000G0, Q9CYS8; Q9UUQ2;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Mitochondrial 28S ribosomal protein S30 (S30mt) (MRP-S30).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nature [2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hayashizaki Y.; "Functional annotation of a full-length mouse cDNA collection."; Nature 409:685-690\,(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Embryo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10090;
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SEQUENCE OF Carim L., Es
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                                              283-442
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75.0%;
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Pred. No.
                                                                                                                         99:16899-16903 (2002)
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SEQUENCE FROM N.A.
STRAIN=S288C;
STRAIN=92437976; PubMed=8840504;
Huang M.-E., Manus V., Chuat J.-C., G.
Huang M.-E., Manus V., Chuat J.-C., G.
T "Analysis of a 62 kb DNA sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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P47125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ribosomal
CONFLICT
CONFLICT
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CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outse the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/ar or send an email to license@isb-sib.ch).
                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypothetical 50.8 kDa protein in MIR1-STE18 i.
YJR078W OR J1840.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AK011476; BAB27644.1; EMBL; AK013560; BAB28809.1; AL5
EMBL; BAC029784; AAH29784.1; -.
EMBL; AL355719; CAB90812.1; -.
EMBL; AL355719; CAB90812.1; -.
                                                                                                                                                                                                                                                                                                                                     Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YEAST
                                    EMBL; Z49578; CAA89606.1; EMBL; L47993; AAB39303.1;
                                                                                                                                                                                     Yeast 12:869-875(1996).
-!- SIMILARITY: BELONGS TO THE INDOLEAMINE 2,3-DIOXYGENASE FAMILY.
                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=4932;
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6; Conser
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127
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Pred. No. 49;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A -> T (IN REF. 2).
P -> SPS (IN REF. 2).
RPR -> OPG (IN REF. 2).
H -> N (IN REF. 1; BAB28809);
C35A540D3A524BCC CRC64;
                                                                                                                                                                                                                               C., Galibert F.;
e of chromosome X
r with a counterp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       moved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                               omosome X reveals 36 open counterpart on chromosome
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                                                                                                                                                                                                                                                                                                                                                                                             intergenic
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PIR; S57097; S57097. SGD; S0003839; YJR078W. GO; GO:0005737; C:cytoI

IDA

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DR GO; GO:0009435; P:nicotinamide adenine dinucleotide biosynthesis; IMP.

DR Pfam; PF01231; IDO; 1.

DR PROSITE; PS00876; IDO 1; 1.

DR PROSITE; PS00877; IDO 2; 1.

NW HYDOTHETICAL DIOCETIN; Heme:

PT METAL 375 375 IRON (HEME PROXIMAL LIGAND) (POTENTIAL).

FT METAL 375 375 IRON (HEME PROXIMAL LIGAND) (POTENTIAL).

SQ SEQUENCE 453 AA; 50775 MW; A8BF1702F6827EC9 CRC64;

Query Match
Best Local Similarity 75.0%; Pred. NO. 51;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

DB 284 GSNAQSSL 291

Search completed: January 29, 2004, 14:53:08

Job time: 6.82353 secs
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Result
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Maximum DB
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Perfect score:
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                                                                                                                                                                                                                                                                                                                            Score
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SPTREMBL 23:*

1: sp_bacteria:*

2: sp_bacteria:*

3: sp_fungi:*

4: sp_human:*

5: sp_invertebrat:

6: sp_mammal:*

7: sp_mhc:*

10: sp_phage:*

10: sp_phage:*

11: sp_vordent:*

12: sp_virus:*

13: sp_virus:*

14: sp_virus:*

15: sp_virus:*

16: sp_bacteriap:

17: sp_archeap:*
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Gapop 10.0 , Gapext 0.5
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Match Length DB
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Maximum Match 100%
Listing first 45 summaries
    GANAXSSLF
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sp_phage:*
sp_phage:*
sp_virus:*
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sp_virus:*
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sp_rvirus:*
sp_rvirus:*
sp_archeap:*
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Q92219 mus musculu
Q807h34 mus musculu
Q90c13 mus musculu
Q33586 staphylococ
Q8w459 axabidopsis
Q9pni5 campylobact
Q55632 synechocyst
Q81852 hepatitis c
Q81897 axabidopsis
Q8wqa0 caenorhabdi
Q8s2e4 oryza sativ
Q23998 hordeum vul
Q89281 oryza sativ
Q3998 oxanthomonas
Q8pg96 xanthomonas
Q8pg96 xanthomonas
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Q92279

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AC Mossimit Common Commo
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Q922T9;
Q1-DEC-2001 (TrEMBLrel. 19, Created)
Q1-DEC-2001 (TrEMBLrel. 19, Last sequence update)
Q1-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Similar to lysosomal membrane glycoprotein 1 (Fragment).
Mus musculus (Mouse).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutel
Nommalia; Eutheria; Rodentia; Sciurognathi; Muridae; Muri
Nobl TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. Strausberg R.; Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases. Submitted (APR-2001) to the EMBL; BC006785; AAH06785.1; -.
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ALIGNMENTS

Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus

RES Q8V ID AC	Qy db	2 110	SQ PT	ָ קלול
RESULT 2 QBVH34 PRELIMINARY; PRT; 406 AA. AC QBVH34; DT 01-MAR-2002 (TrBMBLrel. 20, Created)	y 1 GANAXSSLF 9 b 63 GMNASSSLF 71	Ouery Match 84.6%; Score 33; DB 11; Length 189; Best Local Similarity 77.8%; Pred. No. 13; Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps	PÉAM, PFO1299, LAMP, 1. R PENNTS; PR00336; LYSASSOCTDMP. R PROSITE; PS00310; LAMP 1; 1. R PROSITE; PS00311; LAMP 2; 1. T NON TER 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
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XX MEDLINE-21085660; PubMed=11217851;
XX MEDLINE-21085660; PubMed=11217851;
XX MEDLINE-21085660; PubMed=11217851;
XX MEDLINE-21085660; PubMed=11217851;
XX Markey J., Shinagawa A., Shibata X., Yoshino M., Adachi J., Fukuda S.,
Alzawa K., Izawa M., Nishi K., Kiyosswa H., Kondo S., Yamanaka I.,
Alzawa K., Izawa M., Nishi K., Kiyosswa H., Kondo S., Yamanaka I.,
Alzawa K., Izawa M., Nishi K., Kiyosswa H., Kondo S., Casayant T.,
XX Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
XX Kadota K., Matsuda H.A., Ashburner M., King B., Kochiwa H.,
XX Kuchl P., Lawis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
XX Kuchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
XX Kuchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
XX Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
XX Schriml L.M., Staubli F., Suzuki R., Tomita M., Garibushi T.,
XX Sakai K., Okido T., Furuno M., Anon H., Baldarelli R., Barsh G.,
XX Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
XX Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
XX Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
XX Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
XX Brownstein M.J., Bult C., Fletcher C., Wamiya M., Lee N.H.,
XX Lyons P., Marchiomi L., Mashima J., Mazzarelli J., Mombaerts P.,
XX A. Sasaki H., Sato X., Schoenbach C., Sepa T., Shibata Y., Storch K.-F.,
XX Myrshaw-Boris A., Yoshida K., Hasegawa Y., Xawaji H., Kohtsuki S.,
XX Havsshizaki Y., J., Yoshida K., Hasegawa Y., Xawaji H., Kohtsuki S.,
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SEQUENCE FAVOR.

Ono K., Han J.;

Ono K., Han J.;

Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.

Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.

SEMBL; AY069968; AAL58070.1; -.

InterPro; IPR00200; Lamp.

PROMIZ9; Lamp. 1.

PROMITS; PR00310; LYSASSOCTDMP.

PROSITE; PR00310; LAMP 1; 2.

PROSITE; PS00311; LAMP 2; 1.

SEQUENCE 406 AA; 43879 MW; C1BD373548ADFA85 CRC64;
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01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
Lysosomal membrane glycoprotein 1.
                                                                                                                                                                                                                                                                                                  Wynshaw-Boris A., Yoshida K., Hasegawa Y., Nawaji ..., Nawaji ..., Hayashizaki Y.;
"Functional annotation of a full-length mouse cDNA collection.";
Nature 409:685-690(2001).
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01-CCT-2002
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Mammalia; Eutheria; Rodentia;
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PROSITE; PS00310; LAMP_1; 2.
PROSITE; PS00311; LAMP_2; 1.
SEQUENCE 407 AA; 43936 MW;
                                                                                                                          InterPro; IPR002000; Lamp. Pfam; PF01299; Lamp; 1. PRINTS; PR00336; LYSASSOCTDMP
                                                                                                                                                                                                                                                         EMBL; AK004637; BAB23428.1; MGD; MGI:96745; Lampl.
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Rodentia;
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Sciurognathi; Muridae; Murinae; Mus.
         696D0C79F627DA84 CRC64;
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MEDIJINE-1311952; PubMed=i1418146;
MEDIJINE-2311952; PubMed=i1418146;
Kuroda M., Ohta T., Uchiyama I., Baba T., Yuzawa H., Kobayashi Cui L., Oguchi A., Aoki K.-I., Nagai Y., Itan J.-Q., Ito T., Kanamori M., Matsumaru H., Maruyama A., Murakami H., Hosoyama A. Mizutani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito C. Sekimizu K., Hirakawa H., Kuhara S., Goto S., Yabuzaki J., Kanehisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., Shi Hattori M., Ogasawara N., Hayashi H., Hiramatsu K.;
"Whole genome sequencing of meticillin-resistant Staphylococcus aureus ";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SPECIES-S.aureus; STRAIN-SA502A;
MEDININE-97342847; PubMed=9197282;
Ji G., Beavis R., Novick R.P.,
"Bacterial interference caused by autoinducing peptide variants.";
Science 276:2027-2030(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGRD OR SAV2037 OR SA1842.1 OR SASO66. Staphylococcus aureus (strain Mu50 / ATCC 700699) Staphylococcus aureus (strain N315), and Staphylococcus aureus.

Bacteria; Firmicutes, Bacillales; Staphylococcus.
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O33586, O1-JAN-1998 (TrEMBLrel. 05,
01-JAN-1998 (TrEMBLrel. 05,
01-MAR-2002 (TrEMBLrel. 20,
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SEQUENCE
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EMBL; AP001782; AAB58195.1; -.

EMBL; AP003364; BAB58199.1; -.

EMBL; AP003135; BAB43124.1; -.
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I., Kaito C.,
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Nature 403:665-668 (2000).
EMBL; AL139077; CAB73354.1; -.
InterPro; IPR004438; PepF.
InterPro; IPR001567; Peptidase M3.
InterPro; IPR006025; Peptidase M3.
InterPro; IPR006025; Peptidase M3.
Pfam; PF01432, Peptidase M3; 1.
TIGRPAMS; TIGR00181; pepF; 1.
PROSITE; PS00142; ZINC_PROTEASE; 1.
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Q9PNJ5;
Q1-OCT-2000
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Q55632
Q55632;
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01-NOV-1996
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SEQUENCE FROM N.
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Bacteria; Epsilonproteobacteria;
Campylobacteraceae; Campylobacter.
CMBI_TaxID=197;
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SEQUENCE
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RESULT RESULTS RESULTS
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Q1552;
Q1-NOV-1996 (TrEMBLrel. 01, Cre.
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T 01-CT-2002 (TrEMBLrel. 22, Las
T 01-CT-2002 (TrEMBLrel. 22, Las
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EMBL; D64000; BAA10146.1; -.
InterPro; IPR002549; UPF0118.
Pfam; PF01594; UPF0118.
Pfam; PF01594; UPF0118 1.
Hypothetical protein; Complete proteome.
EXQUENCE 340 AA; 37941 MW; 62817EBACCCB7405 CRC64;
SEQUENCE FROM N.A.
STRAIN=NE145;
MEDLINE=94201770; Pub
Tokita H., Shrestha 9
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MEDLINE=97061201; PubMed=8905231;

Kaneko T., Sato S., Kotani H., Tanaka A., Asamizu E., Nakamura Y.

Kaneko T., Sato S., Kotani H., Tanaka A., Asamizu E., Nakamura Y.

Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T.,

Miyajima N., Hirosawa M., Sugiura M., Nakazaki N., Naruo K., Okumu
Hosouchi T., Matsuno A., Muraki A., Nakazaki N., Naruo K., Okumu
Shimpo S., Takeuchi C., Mada T., Watanabe A., Yamada M., Yasuda
Tabata S.;
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Bacteria; Cyanobacteria;
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Hypothetical protein slr0784.
                                                                                                              MEDIZINE 94186155; PubMed=8138250; Shrestha S.M., Tsuda F., Okamoto H., Tokita H., Hc Shrestha S.M., Tsuda F., Mayumi M.; Tanaka T., Miyakawa Y., Mayumi M.; "Hepatitis B virus subtypes and hepatitis C virus patients with chronic liver disease in Nepal."; Hepatology 19:805-809(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (AUG-1995)
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                                                                                                                                                                                                                                                                 STRAIN=NE145;
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na S.M., Okamoto
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InterPro; IPR00252; HCV_core.
InterPro; IPR002521; HCV_core.
InterPro; IPR002519; HCV_core.
InterPro; IPR002519; HCV_env.
InterPro; IPR002511; HCV_NS1.
Pfam; PF01543; HCV_capsid; 1.
Pfam; PF01543; HCV_core; 1.
Pfam; PF01542; HCV_core; 1.
Pfam; PF01542; HCV_core; 1.
Coat protein; Envelope protein; Glycoprotein; Nonstructural Polyprotein; Tansmembrane.

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01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
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Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Epermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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                                     EU Arabidopsis sequencing project;
Submitted (MAR-2000) to the EMEL/GenBank/DDBJ
EMBL; AL031394; CAR20594.1; -
EMBL; AL161584; CAB80098.1; -
EMBL; AL161584; CAB80098.1; -
InterPro; IPR001000; Glyco_hydro_10.
Pfam; PF00331; Glyco_hydro_10; 1.
SMART; SM00633; Glyco_10; T.
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Heijnen L., Vos P., Mewes H.
Submitted (AUG-1998) to the
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Obermaier B., Deutschenbaur
Mayer K.F.X.;
Submitted (MAR-2000) to the
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  Hydrolase.
SEQUENCE
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InterPro; IPR001849; Ph.
InterPro; IPR000219; RhoGEF;
Pfam; PF00621; RhoGEF; 1.
SWART; SW00233; PH; 1.
PROSITE; PS50010; DH_2; 1.
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Q8WQA0
01-MAR-2002 (TrEMBLE
01-MAR-2003 (TrEMBLE
01-MAR-2003 (TREMBLE
Y105E8A.24 protein.
Y105E8A.24
                                                                                                                                                                                                                                                                                                                                                                                                                                    Q8S2E4 PRELIMINARY;
Q8S2E4;
01-JUN-2002 (TrEMBLrel. 2
01-JUN-2002 (TrEMBLrel. 2
01-MAR-2003 (TrEMBLrel. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         investigating biology.; science 283:2012-2018 (1998). Science 283:2012-2018 (1998). EMBL, AL132876; CAD21673.1; WormPep; Y10588A.24; CE29942.
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Rhabditidae; Peloderinae; Caenorhabditis.
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                                                                                                                                                                                                                                                            Oryza sativa (japonica cultivar-group).
Eukaryota, Viridiplantae, Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; Lillopsida; Poales; Pos
Ehrhartoideae; Oryzeae; Oryza.
                                                    STRAIN=cv. Nipponbare;
Sasaki T., Matsumoto T.,
"Oryza sativa nipponbare
clone:P0022F10.";
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      submitted (FEB-2001) to
                                                                                                                                                                              SEQUENCE FROM N.A.
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6; Conserv
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(TrEMBLrel. 20,
(TrEMBLrel. 23,
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A; 129420
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21,
23,
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      the EMBL/GenBank/DDBJ databases TO THE ABC TRANSPORTER FAMILY.
                                                                                          Yamamoto
(GA3) gend
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Pred. No. 1.2e+02;
1; Mismatches 2;
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Pred. No. 2.6e+02;
2; Mismatches 1
                                                                                    moto K.;
genomic
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                                                                                             DNA,
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                                                                                                                                                                                                                                                                                                                                Tracheophyta;
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RESULT 12
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                                                                                                                                                              RESULT
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Best Local S
Matches 6
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Best Local S
Matches 6
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InterPro; IPR001140; ABC_TM_transpt.
InterPro; IPR003439; ABC_transporter.
Pfam; PF00664; ABC_membrane; 2.
Pfam; PF00005; ABC_tran; 2.
ProDom; PD000006; ABC_tran; 2.
ProDom; PD000006; ABC_tran; 2.
SMART; SM00382; AAA; 2.
PROSTIE; PS00211; ABC_TRANSPORTER; 2.
ATP-bindang; Transport.
ATP-bindang; Transport.
SEQUENCE 1203 AA; 131507 MW; B78383
                                                                                                                                                                                                                                                                                                                                                                                         ProDom; PD00000, 2, AAA; 2, SMART; SMO0382; AAA; 2, SMORT; SMO0311; ABC TRANSPORTER; PROSITE; PS00211; ABC TRANSPORTER; ATP-binding; Transport 1232 AA; 134377 MM; 1
                    01-MAR-2003
01-MAR-2003
01-MAR-2003
                                                                                          Q8GU81;
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01-JAN-1998 (TrEMBLrel. 05,
01-JAN-1998 (TrEMBLrel. 05,
01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR003593; AAA ATPase.
InterPro; IPR001140; ABC TM_transpt.
InterPro; IPR0031439; ABC_transporter.
Pfam; PF00664; ABC_membrane; 2.
Pfam; PF00005; ABC_tran; 2.
Probom; PD000006; ABC_transporter; 2.
SMART; SM00382; AAA; 2.
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STRAIN=cv. Maris Mink;
MEDLINE=98019088; PubMed=9358056;
Davies T.G.E., Theodoulou F.L., Hallahan
Davies T.G.E., Theodoulou F.L., Hallahan
"Cloning and characterization of a novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-glycoprotein homologue.
Hordeum vulgare (Barley).
Eukaryota; Viridiplantae; Streptophyta; En
Spermatophyta; Magnoliophyta; Liliopsida;
Triticeae; Hordeum.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- SIMILARITY: BELONGS TO THE ABC EMBL; Y10099; CAA71179.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=4513;
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                                                                                                                                                                                                                                                                               \vdash
                                                                                                                                                                                                                                                                                                                            Similarity 6; Conserv
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                    3 (TrEMBLrel. 23,
3 (TrEMBLrel. 23,
3 (TrEMBLrel. 23,
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                                                                                                                 PRELIMINARY;
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Last sequence update)
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Pred. No. 2.7e
2; Mismatches
                      Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                               Score 31; DB
Pred. No. 2.8e
2; Mismatches
                                                                   Created)
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                                                                                                                      1234 AA
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2.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Embryophyta; Tracheophyta;
a; Poales; Poaceae; Pooideae;
                                                                                                                                                                                                                                                                                                                               1.8e+02;
1es 1;
                                                                                                                                                                                                                                                                                                                                                                               DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D.L., Forde B.G.;
P-glycoprotein homologue
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RESULT 15
Q8PQ96
ID Q8PQ9
AC Q8PQ9
DT 01-OC
DT 01-OC
DT 01-OC
DT 10-OC
DT 10-OC
DT APOOT
GN XACO4
OS Xanth
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SEQUENCE FROM N.A.

SETATINATIC 15692 / DAO1;

SCORET C.K., Phan X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P.,

RA Stover C.K., Phan X.-Q.T., Erwin A.L., Mizoguchi S.D., Lagrou M.,

RA Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M.,

RA Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M.,

RA Hickey M.J., Brinkman F.S.L., Kasha, Larbig K., Lim R.M.,

RA Hickey M.J., Brinkman F.S.L., Westbrock-Wadman S., Yuan Y.,

RA Bardy L.L., Collter S.N., Folger K.R., Kasha, Larbig K., Lim R.M.,

RA Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T.,

RA Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T.,

RA Reizer J., Saier M.H., Hancock R.E.W., Lory S., Olson M.V.;

RCOMplete genome sequence of Pseudomonas aeruginosa PAO1, an

Opportunistic pathogen.";

DR HYDOThetical protein; Complete proteome.

HyDOThetical protein; Complete proteome.

SQUENCE 213 AA; 23164 MW; ADBAFF71FB56306F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local s
Matches
                                                                         Q8PQ96;
Q8PQ96;
01-0CT-2002
01-0CT-2002
01-0CT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jasinski M., Ducos E., Martinoia E., Boutry M.;
"The ATP-binding cassette transporters: structure,
family comparision between rice and Arabidopsis.";
Plant Physiol. 0.0-0(0).
EMBL; AJ535055; CAD59577.1;
SEQUENCE 1234 AA; 134571 MW; C5F9E9D75D28AC93 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Oryza sativa (japonica cultivar-group).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9HX10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pseudomonas aeruginosa.
Bacteria; Proteobacteria; Gamn
Pseudomonadaceae; Pseudomonas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hypothetical protein PA4017.
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                         Hypothetical XAC0432.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=287;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960 GANAVASVF 968
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                                                                                                                                                                                                                                                                                                                                                                                                                    n 76.9%;
Similarity 66.7%;
6; Conservative
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(TrEMBLrel. 18, I)
(TrEMBLrel. 18, I)
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(TrEMBLrel. 22, Last sequence update)
(TrEMBLrel. 22, Last annotation update)
  axonopodis
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                                                  protein XAC0432.
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2; Mismatches
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RC STRAIN=306 / APCC 13902 / XV 101;
RC STRAIN=306 / APCC 13902 / XV 101;
RX MEDLINE=22022145; PubMed=12024217;
RA da Silva A.C.R., Ferro J.A., Reinach F.C., Farah C.S., Furlan L.R.,
RA da Silva A.C.R., Ferro J.A., Reinach F.C., Camargo L.E.A.,
RA Quaggio R.B., Monteiro-Vitorello C.B., Van Sluys M.A., Almeida N.F.,
RA Alves L.M.C., do Amaral A.M., Bertolini M.C., Camargo L.E.A.,
RA Camarotte G., Cannavan F., Cardozo J., Chambergo F., Ciapina L.P.,
RA Ciarelli R.M.B., Coutinho L.L., Cursino-Santos J.R., El-Dorry H.,
RA Faria J.B., Ferreira A.J.S., Ferreira R.C.C., Ferro M.I.T.,
RA Faria J.B., Ferreira A.J.S., Ferreira R.C.C., Ferro M.I.T.,
RA Formighieri E.F., Franco M.C., Greggio C.C., Gruber A.,
RA Locali E.C., Machado M.A., Madeira A.M.B.N., Martinez-Rossi N.M.,
RA Martins E.C., Meidanis J., Menck C.F.M., Miyaki C.Y., Moon D.H.,
RA Martins E.C., Meidanis J., Menck C.F.M., Miyaki C.Y., Moon D.H.,
RA Moreira L.M., Novo M.T.M., Okura V.K., Oliveira M.C., Oliveira V.R.,
RA Pereira H.A., Rossi A., Sena J.A.D., Silva C., de Souza R.F.,
RA Spinola L.A.F., Takita M.A., Truffi D., Tsai S.M., White F.F.,
RA Spinola L.C., Kitajima J.P.,
RT Tindade dos Santos M., Truffi D., Tsai S.M., White F.F.,
RA Setubal J.C., Kitajima J.P.,
RA Setubal J.C., Kitajima J.P.,
RA Mature 417:459-463(2002).
RE MBL, AEO11670, AAM35323.1; -
SMBL, CACC. CRC64;
Search completed: January 29, 2004, 14:56:45 Job time : 28.8676 secs
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Best Local Similarity
Matches 6; Conserv
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Post-processing: Minimum Match 0%
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Result No.

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ALIGNMENTS

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APPLICANT: Muir, Tom
APPLICANT: Mayville, Patricia
APPLICANT: Mayville, Patricia
APPLICANT: No. 6337395ick, Richard P.
APPLICANT: No. 6337395ick, Richard P.
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
ITILE OF INVENTION: INTERFERENCE
FILE OF INVENTION: INTERFERENCE
FILE REPERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 600/990,402
PRIOR APPLICATION NUMBER: 600/990,402
PRIOR APPLICATION NUMBER: 600/990,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
  Sequence 1, Application US/09339511
Patent No. 6337385
GENERAL INFORMATION:
APPLICANT: Mulr, Tom
APPLICANT: Mayville, Patricia
APPLICANT: No. 6337385ik, Richard
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 2
LENGTH: 9
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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OTHER INFORMATION: Xaa represen
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Muir, Tom
Mayville, Patricia
No. 6337385ick, Richard F
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SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence 3, Application US/08861476C
Patent No. 6447786
                                                   SOFTWARE: PatentIn version 3.0 SEQ ID NO 6
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Best Local
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -08-861-476C-3
                                                                                     CURRENT APPLICATION NUMBER: US/08/861,476C CURRENT FILING DATE: 1997-05-22 NUMBER OF SEQ ID NOS: 8
                                                                                                                                PPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS
FILE REFERENCE: 63753/7
                                                                                                                                                                                                                                                 08-861-476C-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/08/861,476C CURRENT FILING DATE: 1997-05-22 NUMBER OF SEQ ID NOS: 8
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CURRENT APPLICATION NUMBER: US/09/339,511

CURRENT FILING DATE: 1999-06-24

PRIOR APPLICATION NUMBER: 60/090,402

PRIOR FILING DATE: 1998-06-24

NUMBER OF SEQ ID NOS: 8
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TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS
FILE REFERENCE: 63753/7
ORGANISM: Staphylococcus aureus
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OTHER INFORMATION: Xaa represents any amino acid at this position.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence
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77.8%;
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Pred. No.
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Pred. No.
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                                                                                                                                                 NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 5
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Best Local
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Best Local :
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                                                                                                                                                                                                 CURRENT FILING DATE: 1999
PRIOR APPLICATION NUMBER:
PRIOR FILING DATE: 1998-0
                                                                                                                                                                                                                                                    APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOTERFERENCE
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
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CURRENT APPLICATION NUMBER: US/09/595,857B
CURRENT FILING DATE: 2001-08-28
PRIOR APPLICATION NUMBER: 60/141,543
PRIOR FILING DATE: 1999-06-28
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APPLICANT: Chen, Nancy J.
TITLE OF INVENTION: PLANT XYLANASES
                  NAME/KEY: VARIANT LOCATION: (5)
                                           FEATURE:
OTHER INFORMATION: Description
OTHER INFORMATION: peptide
                                                                                                TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT ORGANISM: Arabidopsis thaliana
OTHER INFORMATION: Xaa represents any amino acid at this position
                                                                                                                                   LENGTH:
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Similarity 66.7%;
6; Conservative
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Mayville, Patricia
No. 6337385ick, Richard P.
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Pred. No.
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Pred. No.
                                                                 of Artificial Sequence: Synthetic
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Query Match

76.98;

Score 30;

DB 4;

Length 9;

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US-09-328-352-7790
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                                                                                                                         ; ORGANISM: Acinetobacter baumannii
US-09-328-352-7790
                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: GATY L. Breton et al.
TITLE OF INVENTION: RUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: EQUANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 7790
                                                            Matches
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Best Local
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Patent No. 6562958
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OTHER INFORMATION: I
NAME/KEY: VARIANT
LOCATION: (5)
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CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
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PRIOR FILING DATE: 198-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                         LENGTH: 222
TYPE: PRT
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ITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
ITLE OF INVENTION: INTERPERENCE
ILE REFERENCE: 600-1-231N
120 GANANSPIF 128
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                                                          Similarity 66. 6; Conservative
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7; Conservative
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                            GANAXSSLF 9
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No. 6337385ick, Richard
Beavis, Ronald
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66.7%;
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RER: 60/090,402
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Pred. No. 28;
1; Mismatches
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1; Mismatches 1
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Pred. No. 2.5e+05;
1; Mismatches 1
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US-09-556-916-30
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   Sequence 21944, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
APPLICANT: Marc J. RUBENFIELD AND AMINO ACID
TITLE OF INVENTION: APRIGINOSA FOR DIAGNOSTICS F
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CURRENT APPLICATION NUMBER: US/09/556,916
CURRENT FILING DATE: 2000-04-21
NUMBER OF SEQ ID NOS: 32
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 30
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SEQ ID NO 32
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Best Local :
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CURRENT FILING DATE: 2000-04-21
NUMBER OF SEQ ID NOS: 32
FILE REFERENCE:
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TYPE: PRT
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APPLICANT: Nehls, Michael
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ITLE OF INVENTION: No. 6548271el Human Transporter Proteins
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6; Conserve
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Nehls, Michael
Friedrich, Glenn
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Turner, Alex
                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                       No. 6548271el Human Transporter Proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          76.9%;
                                                                                                                                                                                                                                                76.9%;
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Pred. No. 33;
2; Mismatches
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Pred. No. 33;
2; Mismatches
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             ) SEQUENCES RELATING TO PSEUDOMONAS AND THERAPEUTICS
                                                                                                                                                                                                                                                              Length 258;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 26
LENGTH: 672
CURRENT APPLICATION NUMBER: US/09/556,916
CURRENT FILING DATE: 2000-04-21
NUMBER OF SEQ ID NOS: 3
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 28
LENGTH: 672
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                           Sequence 28, App
Patent No. 65482
                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
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APPLICANT: Turner, Alex
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -09-556-916-26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
                                                                                                                      APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. 6548271el Human Transporter Proteins
FILE REFERENCE: 8535-041-999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/252,991A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JRRENT APPLICATION NUMBER: US/09/556,916
JRRENT FILING DATE: 2000-04-21
                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
les 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CANT: Sands, Arthur T.
OF INVENTION: No. 6548271el Human Transporter Proteins
                                                                                                                                                                                                           INFORMATION:
ANT: Turner, Alex
                                                                                                                                                                                                                                                                                                                                 150 GASALSSMF 158
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                                                              FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nehls, Michael Friedrich, Gle
                                                                                                                                                                                 Nehls, Michael
                                                                                                                                                                                                Zambrowicz,
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                                                                                                                                                                 Friedrich,
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-25722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-252-991A-25722
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Best Local S
Matches 6
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LENGTH: 1380
                                                                                                                                                                        SOFTWARE:
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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Best Local
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APPLICATE MATE J: Rubenfield et al.

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS

TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 107196.116

FILE REFERENCE: 107196.136

CURRENT FILING DATE: 1999-02-18

PRIOR APPLICATION NUMBER: US 60/074,788

PRIOR APPLICATION NUMBER: US 60/094,190

PRIOR FILING DATE: 1998-07-27

NUMBER OF SEQ ID NOS: 33142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                    FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1990-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -09-339-511-7
Sequence 7, Applic
Patent No. 6337385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No.
                                                                                                                                                                                                                                                                                                           APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Mayville, Patricia
APPLICANT: No. 6337385ick, Richard
                                    OTHER INFORMATION:
OTHER INFORMATION:
NAME/KEY: VARIANT
                                                                                              ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                       ENGTH: 9
INFORMATION: Xaa represents any amino acid at this position
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   150 GASALSSMF 158
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                                                                                                                                                                                            PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/09339511
                                                                                                                                                                                                                                                                                                                                                                                    Beavis, Ronald
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/09252991A
                                                     Description of peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               76.9%;
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Pred. No. 3.8e+02
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Pred. No.
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                                                                             Artificial Sequence: Synthetic
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Query Match 71.8%; Score 28; DB 4; Length 9; Best Local Similarity 77.8%; Pred. No. 2.5e+05; Matches 7; Conservative 0; Mismatches 2; Indels Search completed: January 29, 2004, 15:03:20 Job time : 11.1176 secs 8 1 GANAXSSLF 9 | | | | | | | | 1 GVNAXSSAF 9 0; Gaps 0;

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Minimum DB seq
Maximum DB seq
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein -
                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein search, using
                                                                                                                                                                                                                                                                                                                                                                                    Published Applications AA:*

1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*

7: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*

8: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*

11: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*

13: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*

14: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*

15: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

16: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

17: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

16: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

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18: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

19: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
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length: 2000000000
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Match
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Gapop 10.0 , Gapext 0.5
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39
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   GANAXSSLF
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Copyright (c) 1993 - 2004 Compugen Ltd
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   US-10-032-950-2

US-10-201-444-3

US-10-201-444-6

US-10-201-950-5

US-10-032-950-6

US-10-032-950-6

US-10-368-687-30

US-10-368-687-32

US-10-368-687-28

US-10-368-687-28

US-10-368-687-28

US-10-108-605-303

US-09-664-408A-7538

US-10-093-957-1280

US-10-196-761-11286
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 sequence
 1, Appli
3, Appli
5, Appli
6, Appli
6, Appli
8, Appli
30, Appli
26, Appli
28, Appli
7538, Appli
303, Appli
304, Appli
305, Appli
                                                                                                                                 Sequence 2, Application US/10032950

Publication No. US20020077453A1

GENERAL INFORMATICN:
APPLICANT: Muir. Tom
APPLICANT: Muir. Tom
APPLICANT: Mo. US20020077433A1ick, Richard P.
APPLICANT: Mo. US20020077433A1ick, Richard P.
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032/950
CURRENT APPLICATION NUMBER: US/10/032/950
CURRENT APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 2
LENGTH: 9
LENGTH: 9
INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: peptide
NAMP/KEY: VARIANT
LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position.
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                                                               Query Match
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Matches
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9; Consert
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1106
                                                                94.9%; Score 37; DB 13; Length 9;
100.0%; Pred. No. 7e+05;
tive 0; Mismatches 0; Indels
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13 US-10-108-260A-7
14 US-10-108-260A-4061
15 US-10-407-079-37
16 US-10-291-265-78
17 US-10-291-265-78
18 US-10-291-265-78
18 US-10-291-265-78
19 US-10-291-265-78
10 US-10-291-265-78
11 US-10-369-493-3265
12 US-10-369-493-3265
12 US-10-369-493-6583
12 US-10-369-493-6583
13 US-10-369-493-6583
14 US-10-369-493-6583
15 US-10-369-493-22197
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20 US-10-369-493-27613
21 US-10-328-6751A-56
21 US-10-328-6751A-56
21 US-10-328-6751A-56
21 US-09-866-055-2769
21 US-09-866-055-2769
                                                                                                                                                                                                       of Artificial Sequence: Synthetic
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                                                                                                                                             this position
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US-10-201-444-3
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                                                                                                                                    ; TYPE: PRT ; ORGANISM: Staphylococcus aureus US-10-201-444-3
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                                                                  Query Match
Best Local S
Matches
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CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PAtentin Ver. 2.0
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3, Application US/10201444
Publication No. US20030078378A1
GENERAL INFORMATION:
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Best Local :
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                                                                                                                                                                                                          PRIOR FILING DATE: 1997-
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn versi
SEQ ID NO 3
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APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453Alick, Richard
                                                                                                                                                                                                                                                                          APPLICANT: New York University Medical Center TITLE OF INVENTION: BLOCKING EXPRESSION OF VIR FILE REFERENCE: 63753/7
CURRENT APPLICATION NUMBER: US/10/201,444
CURRENT FILING DATE: 2002-07-23
PRIOR APPLICATION NUMBER: US/08/861,476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Ji Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES
TITLE OF INVENTION: INVERFERENCE
FILE REFERENCE: 600-1-231N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
COTHER INFORMATION: Xaa represents any amino acid at this position.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                         LENGTH: 9
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nes 8; Conserv
                                                            n 82.1%;
Similarity 77.8%;
7; Conservative
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GVNACSSLF
                              GANAXSSLF 9
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Pred. No.
                                                                  Score 32; DB 15;
Pred. No. 7e+05;
0; Mismatches 2
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                                                                                                  Length 9;
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RESULT 4 US-10-201-444-6

> RESULT 6 US-10-032-950-6

Sequence 6, Application US/10032950 Publication No. US20020077453A1 GENERAL INFORMATION:

APPLICANT: Muir,

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Sequence 6, Application US/10201444
Publication No. US20030078378A1
GENERAL INFORMATION:
APPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRUI-
FILE REFERENCE: 63753/7
CURRENT APPLICATION NUMBER: US/10/201,444
CURRENT FILING DATE: 2002-07-23
PRIOR FILING DATE: 1997-05-2
PRIOR FILING DATE: 1997-05-2
UNUMBER OF SEQ ID NOS: 8
NUMBER OF SEQ ID NOS: 8
                                                Query Match
Best Local Similarity
Thes 7; Conserve
                                                                                                                                     ; OTHER INFORMATION: Description of Artificial Sequ
OTHER INFORMATION: peptide
; NAME/KEY: VARIANT
; LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid
US-10-032-950-5
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Best Local S
Matches 7
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                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 5
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Ji, Guangyong
TITLE OF INVENTION: INVERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILLING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR PILING DATE: 1998-66-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -10-032-950-5
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APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453Alick, Richard P.
APPLICANT: Beavis, Ronald
                                                                                                                                                                                                                                             ORGANISM: Artificial Sequence FEATURE:
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                                1 GANAXSSLF 9
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GVNAXASLF
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                                                                   Conservative
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77.8%;
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77.8%;
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Pred. No. 5
                                                                                    Score 30; DB 13
Pred. No. 7e+05;
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                                                                                                     Length 9;
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                                                                     Indels
                                                                                                                                                                                                                            Synthetic
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RESULT 7
US-10-368-687-30
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                                                                                                                                                                                                                                                                                                    ; TYPE: PRT; ORGANISM: Homo sapiens US-10-368-687-30
                                                             US-10-368-687-32
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LENGTH: 9
TYPE: PRT
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CURRENT FILING DATE: 2003-02-14
PRIOR APPLICATION NUMBER: US/09/556,916
PRIOR FILING DATE: 2000-04-21
NUMBER OF SEQ ID NOS: 32
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 30, Application US/10368687
Publication No. US20030162713A1
GENERAL INFORMATION:
APPLICANT: Turner, Alex
APPLICANT: Zambrowicz, Brian
Sequence 32, Application US/10368687 Publication No. US20030162713A1 GENERAL INFORMATION:
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Best Local
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Best Local Similarity 66.7%;
Matches 6; Conservative
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. US20030162713A1el Human
FILE REFERENCE: 8535-041-999
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PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Artificial Sequence
FEATURE:
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                                                                                                                                          150 GASALSSMF 158
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No. US20020077453Alick, Richard P.
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77.8%;
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Pred. No. 7e+05;
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-368-687-26
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APPLICANT: Nehls, Michael
APPLICANT: Exiedrich, Glenn
APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. US20030162713A1el Human Tra
FILE REFERENCE: 8535-041-999
CURRENT APPLICATION NUMBER: US/10/368,687
CURRENT FILING DATE: 2003-02-14
PRIOR APPLICATION NUMBER: US/9/556,916
PRIOR FILING DATE: 2000-04-21
NUMBER OF SEQ ID NOS: 32
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-368-687-26
; Sequence 26, Application US/10368687
; Publication No. US20030162713A1
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US-10-368-687-32
                                                                                                                                                                         Sequence 28, Applica Publication No. US20 GENERAL INFORMATION:
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Best Local Similarity

Matches 6; Conserv
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APPLICANT: Turner, Alex
APPLICANT: Zambrowicz, Brian
APPLICANT: Nehle, Michael
APPLICANT: Nehle, Michael
APPLICANT: Friedrich, Glenn
APPLICANT: Sande, Archur T.
IITLE OF INVENTION: No. US20030162713A1el Human Transporter Proteins
FILE REFERENCE: 8535-041-999
CURRENT APPLICATION NUMBER: US/10/368,687
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CURRENT FILING DATE: 2003-02-14
PRICR APPLICATION NUMBER: US/09/556,916
PRICR FILING DATE: 2000-04-21
NUMBER OF SEQ ID NOS: 32
SOFTWARE: FastSEQ for Windows Version 3.0
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APPLICANT: Nehls, Michael
APPLICANT: Friedrich, Glenn
APPLICANT: Sands, Arthur T.
TITLE OF INVENTION: No. US20030162713A1el Human Transporter Proteins
FILE REFERENCE: 8535-041-999
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APPLICANT: Turner, Alex
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Local Similarity 66.7%;
es 6; Conservative
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No. US20030162713A1
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Pred. No. 88;
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US-10-108-605-303
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SEQ ID NO 28
LENGTH: 672
                                                                                                                                                       Sequence 7538, Application US/09864408A
Publication No. US20040009474A1
GENERAL INFORMATION:
APPLICANT: Leach, Martin D.
APPLICANT: Shimkets, Richard A.
TITLE OF INVENTION: No. US20040009474A1e1 Human Polynucleotides and Polypeptides Encortic Reference: 21402-012
CURRENT APPLICATION NUMBER: US/09/864,408A
CURRENT APPLICATION NUMBER: US/09/864,408A
CURRENT APPLICATION NUMBER: 60/206,690
PRIOR APPLICATION NUMBER: 60/206,690
PRIOR APPLICATION NUMBER: 60/206,690
PRIOR FILING DATE: 2000-05-24
NIMBER OF TO THE TOTAL TO THE TO
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SEQ ID NO 303
LENGTH: 1569
                                                             NUMBER OF SEQ ID NOS: 9068
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 7538
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Best Local
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Publication No. US20020160934A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
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-10-108-605-303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: US 09/761,142
PRIOR FILING DATE: 2001-01-16
PRIOR APPLICATION NUMBER: US 60/176,418
PRIOR FILING DATE: 2000-01-14
NUMBER OF SEQ ID NOS: 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: 31133B
CURRENT APPLICATION NUMBER: US/10/108,605
CURRENT FILING DATE: 2002-03-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Broadus, Julie
APPLICANT: Stam, Lynn
APPLICANT: Bachmann, Jane
APPLICANT: Kamdar, Kim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Kamdar, Kim
TITLE OF INVENTION: NUCLEIC ACID SEQUENCES FROM DROSOPHILA MELANOGASTER THAT ENCODE
TITLE OF INVENTION: PROTEINS ESSENTIAL FOR LARVAL VIABILITY AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT FILING DATE: 2003-02-14
PRIOR APPLICATION NUMBER: US/09/556,916
PRIOR FILING DATE: 2000-04-21
NUMBER OF SEQ ID NOS: 32
NUMBER OF SEQ FOR Windows Version 3.0
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nes 6; Conserv
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; Pred. No. 2.5e
2; Mismatches
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Pred. No. 6.1e+02;
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2.5e+02;
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APPLICANT: NAGAHARI, KENJI
APPLICANT: MASUHO, YASUHIKO
TITLE OF INVENTION: NOVEL FULL-LENGTH CDNA
FILE REFERENCE: 084335/0160
CURRENT APPLICATION NUMBER: US/10/094,749
CURRENT FILING DATE: 2002-03-12
PRIOR APPLICATION NUMBER: 60/350,435
PRIOR FILING DATE: 2002-01-24
PRIOR APPLICATION NUMBER: US/10/4035
PRIOR FILING DATE: 2002-01-24
PRIOR PELICATION NUMBER: UF 2001-328381
PRIOR FILING DATE: 2002-01-24
PRIOR FILING DATE: 2002-01-24
PRIOR FILING DATE: 2002-01-24
PRIOR FILING DATE: 2002-01-24
PRIOR FILING DATE: 2002-01-328381
PRIOR FILING DATE: 2001-09-14
NUMBER OF SEQ ID NOS: 3381
SEQ ID NO 2441
LENGTH: 491
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US-10-083-357-1280
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Best Local S
Matches 6
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IRIE, RYOTARO
TAMECHIKA, ICHIRO
SEKI, NACHIKO
YOSHIKAWA, TSUTOMU
OTSUKA, MOTOYUKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WAKAMATSU, AI
SATO, HIROYUKI
ISHII, SHIZUKO
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ISONO, YUUKO
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OTSUKI, TETSUJI
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Sequence 1280, Application US/10083357

Publication No. US20030054370A1

GENERAL INFORMATION:
APPLICANT: Qiandong Zeng et al.
ITITLE OF INVENTION: Systemic Discovery of New Ger
FILE REFERENCE: 032796-090

CURRENT APPLICATION NUMBER: US/10/083,357

CURRENT FILING DATE: 2002-02-27

NUMBER OF SEQ ID NOS: 1346

SEQ ID NO 1280

LENGTH: 255
                                                                                                                                  ; TYPE: PRT ; ORGANISM: Saccharomyces cerevisiae US-10-083-357-1280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Homo sapiens US-09-864-408A-7538
                                                                 Best Local Similarity Matches 6; Conserv
140 GANATSAL 147
                                                                                                                                                                                                                                                                                                                                                                                                                                              45 GANATSAL 52
                                  1 GANAXSSL 8
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                                                                  Conservative
                                                                                   74.4%;
75.0%;
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; Pred. No. 66;
1; Mismatches
                                                                 1; Mismatches
                                                                                   Score 29; DB 15;
Pred. No. 1.5e+02;
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                                                                                                 Length 255
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US-10-156-761-11286

US-10-156-761-11286, Application US/10156761

| Sequence 11286, Application US/10156761
| Publication No. US20030119018A1
| GENERAL INFORMATION:
| APPLICANT: IKEDA, HARUO
| APPLICANT: IKEDA, HARUO
| APPLICANT: SHIBA, TADAYOSHI
| APPLICANT: SHIBA, TADAYOSHI
| APPLICANT: HATTORI, MASAHIRA
| TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
| FILE REFERENCE: 249-262
| CURRENT APPLICATION NUMBER: US/10/156,761
| CURRENT APPLICATION NUMBER: US/10/156,761
| CURRENT FILING DATE: 2001-05-29
| PRIOR APPLICATION NUMBER: JP 2001-204089
| PRIOR APPLICATION NUMBER: JP 2001-272697
| PRIOR FILING DATE: 2001-05-30
| PRIOR FILING DATE: 2001-08-02
| PRIOR FILING DATE: DONG: 15109
| SEQ ID NO 11286
| LENGTH: 550
| TypE: PRT
| ORGANISM: Streptomyces avermitilis
| US-10-156-761-11286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-094-749-2461
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Search completed: January 29, 2004, 15:01:45 Job time : 26.5441 secs
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                                                                                                                                                                                                            Query Match 74.4%; Score 29; DB 15; Length 550; Best Local Similarity 66.7%; Pred. No. 3.3e+02; Matches 6; Conservative 0; Mismatches 3; Indels
                                                                                                             470 GANESSDLF 478
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           seq
           protein search, using sw model
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Match
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1: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*
2: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*
3: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1982.DAT:*
3: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
5: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
6: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*
6: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*
6: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1987.DAT:*
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Gapop 10.0 , Gapext 0.5
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         94.6
94.6
94.6
93.8
83.8
83.8
81..8
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| SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*
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                                                                                                                                                                                                                              Length
                                                                      163
167
167
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                                                                                                                                                                                                                              IJ
       AAY67853
ABP53542
AAM50901
ABU055804
ABU05887
ABU05888
AAY67859
AAY67860
                                                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Search time 35.0735 Seconds
{without alignments}
40.730 Million cell updates/sec
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                       S. aureus peptide
Cyclic peptide SEQ
AgrD-autoinducing
M. tuberculosis an
M. tuberculosis an
Mycobacterium tube
Staphylococcus aur
Staphylococcus aur
                                                                                                                                                                                                                           Description
coccus aur
i peptide
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ALIGNMENTS

AAY67853;

AAY67853 standard; peptide; 9 AA.

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24-JUN-1998;
                                       24-JUN-1999;
                                                        29-DEC-1999.
                                                                       W09967286-A2
                                                                                                Misc-difference
                                                                                                                      Key
Modified-site
                                                                                                                                               Staphylococcus aureus.
                                                                                                                                                               virulence factor; treatment.
                                                                                                                                                                        Staphylococcus aureus infection; cyclic peptide; AgrD; agr response;
                                                                                                                                                                                       S. aureus peptide #3 used for bacterial interference.
                                                                                                                                                                                                        25-APR-2000
(UYRQ ) UNIV ROCKEFELLER.
                                                                                                                                                                                                       (first entry)
                       98US-0103438
                                       99WO-US14562
                                                                                 5
/label= Unknown
                                                                                                       /note= "N-terminal residue forms bond with C-terminal
residue to form a cyclic peptide"
                                                                                                                                Location/Qualifiers
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Protected

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RESULT 2
ABP53542
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This sequence represents a cyclic peptide derived from the Staphylococcus aureus AgrD peptide. The invention relates to AgrD derived peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Muir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New cyclic peptides for
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 9;
                                               WPI;
                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                   agr response inhibitor
                                                                                                                                                                                                                                                                                            Cyclic peptide;
                                                                                                                                                                                                                                                                                                               Cyclic peptide
                                                                                                                                                                                                                                                                                                                                  13-DEC-2002
                                                                                                                                                                                                                                                                                                                                                     ABP53542;
                                                                                                                                                                                                                                                                                                                                                                      ABP53542 standard; peptide; 9
 Claim
                                                                                                               (MUIR/)
                                                                                                                                                                     27-DEC-2001; 2001US-0032950
                                                                                                                                                                                        20-JUN-2002
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                                                                                                                                                                                                                                      Misc-difference
                   New cyclic peptides, infections
                                                                  Muir TW,
                                                                                                                                          24-JUN-1998;
24-JUN-1999;
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9; Conserv
                                                                                  ) MUIR T W.
) MAYVILLE P.
) NOVICK R P.
) BEAVIS R.
) JI G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Page
                                                                                                                                                                                                                                                                                                                                                                                                                     GVAAXSSLF 9
 Page 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mayville P,
                                                                Mayville P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                  (first entry)
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                                                                                                                                                                                                                                                                                                                SEQ
                                                                                                                                          98US-090402P.
99US-0339511.
                                                                                                                                                                                                                                      Location/Qualifiers 5
                                                                                                                                                                                                                                                                                             Staphylococcus aureus; infection; antibacterial;
                                                                                                                                                                                                                            /note= "any amino acid"
18pp;
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                              useful
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                             for treating
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                                                                   Beavis
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9.3e+05;
                              Staphylococcus
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RESULT 3
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Matches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABP53540 to ABP53547 represent cyclic peptides (I) from the prese invention. The present invention also describes a method for trea staphylococcus aureus infection comprising the administration of composition comprising (I). (I) has antibacterial activity, and cused as an agr gene response inhibitor. The peptides are useful fureating S. aureus infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of staphylococcus aureus. It is an AgrD-autoinducing peptide, where AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NH2-X(n)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AgrD-autoinducing cyclic peptide, inhibitor of agr response.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antibacterial;
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                                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-170774/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-JAN-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                      Claim 7; Column 19; 18pp; English.
                                                                                                                                                                                                                                                                                        Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection i
                                                                                                                                                                                                                                                                                                                                                                                                             Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UYRQ ) UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-JUN-1998;
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9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9 AA;
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NEW YORK STATE
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infection; therapy; cyclic.
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                                                                                                                                                                                                                                                                                                                                                                                                                Novick RP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "note linked to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "note linked
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9.3e+05;
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RESULT 4
ABU05504
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Best Local S
Matches
This invention relates to a novel method for identifying essential genes for survival or virulence of mycobacteria species. The method comprises aligning the genomic sequence of a first mycobacterium species on a genomic sequence of a second mycobacterium species and selecting a polynucleotide sequence that is highly conserved in both genomes with no counterparts in other bacterial genomic sequences and that corresponds to an essential gene for the survival or virulence of mycobacterium species. The method of the invention is useful for detecting M. tuberculosis or M. leprae infection. The method reduces the number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cole
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                              Identifying and selecting genes for survival or virulence of mycobacteria by a comparative genomic analysis of the sequences Mycobacterium tuberculosis and M. leprae -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200274903-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mycobacterium leprae.
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                                                                                                                                                                                                                                                                                        Claim 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-759885/82
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9; Conser
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                                                                                                                                                                                                                                                                                        Page 331; 874pp; English
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100.0%; Pr
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k; Pred. No. 9.3
0; Mismatches
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Query Match Best Local S Matches 7

Similarity 7; Conserv

Conservative

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83.8%; 77.8%;

Score 31; DB Pred. No. 25; 0; Mismatches

DB 23;

Length 167;

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Sequence

167

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RESULT 5
ABU05887
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                     This invention relates to a novel method for identifying essential genes CC for survival or virulence of mycobacteria species. The method comprises CC aligning the genomic sequence of a first mycobacterium species on a CC genomic sequence of a second mycobacterium species and selecting a CC polynucleotide sequence that is highly conserved in both genomes with no CC counterparts in other bacterial genomic sequences and that corresponds CC to an essential gene for the survival or virulence of mycobacterium CC species. The method of the invention is useful for detecting M. CC tuberculosis or M. leprae infection. The method reduces the number of CC potential new targets and protective antigens for new drugs and vaccine CC compositions to treat and prevent mycobacterial diseases, particularly CC tuberculosis and leprosy. The present sequence represents a marker CC protein from Mycobacterium tuberculosis and Mycobacterium leprae CC identified using the method of the invention.
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABU05887 standard; Protein; 167
                                                                                                                                                                                                                                                                                                 Identifying and selecting genes for survival or virulence of mycobacteria by a comparative genomic analysis of the sequences Mycobacterium tuberculosis and M. leprae -
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                                                                                                                                                                                                                                                                   Claim 17;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mycobacterium leprae.
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                                                                                                                                                                                                                                                                 Page 748;
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77
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Pred. No. 24;
0; Mismatches
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RESULT 6
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RESULT 7
AAY67859
ID AAY6
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AC AAY6
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                                                                                                                                                                        Query Match
Best Local S
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                                                                                                                                                                                                                                                        ABB57436 to ABB57504 represent mycobacterial amino acid sequences (I) encoded by ABZ71062 to ABZ71130 (II), which are isolated from Mycobacterium tuberculosis. (I) are encoded by genes (II) whose expression is induced or up-regulated during culture of a mycobacterium under conditions defined by a dissolved oxygen tension of at least 10% air saturation measured at 37 plus degrees Celsius, when compared with a dissolved oxygen tension of at least 40% air saturation measured at 37 plus degrees Celsius, when compared with a dissolved oxygen tension of at least 40% air saturation measured at 37 plus degrees Celsius. (I) and (II) have antibacterial, tuberculostatic and immunostimulant activities, and can be used in vaccines and gene therapy. (I) and (II) can be used for the manufacture of a medicament for treating or preventing a mycobacterial infection. They can also be used for the manufacture of a diagnostic reagent for identifying a mycobacterial infection.
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07-SEP-2001; 2001GB-0021780.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mycobacterium tuberculosis; infection; antibacterial; tuberculostatic; immunostimulant; vaccine; gene therapy; mycobacterial infection.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New mycobacterial peptide, its fragment, variant or
as vaccine for treating or preventing mycobacterial
diagnostic reagents for identifying such infections
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-JAN-2003
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                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                  mycobacterial infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 2; Page 230; 246pp; English.
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 AAY67859;
                            AAY67859 standard; peptide; 9
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                                                                                                                                                            Similarity 7; Conserv
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                                                                                                                                                                        Score 31;
Pred. No.
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                                                                                                                                                               Mismatches
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and as
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RESULT 8
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Staphylococcus aureus AgrDII derived peptide sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New cyclic peptides
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                                                                                                                                                                                                                                                virulence factor
                                                                                                                                                                                                                                                                                                                       Staphylococcus
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                                                                                                                                                                                                 Staphylococcus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY67860 standard;
     24-JUN-1998;
                                                 24-JUN-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 AA;
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                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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                                                                                                                                                                                                                                                                          aureus
                                                                                                                                                                                                                                                                                                                       aureus AgrDII derived peptide sequence.
                                                    99WO-US14562
     98US-0103438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide; 9 AA
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                                                                                                                                                                                                                                                                          infection;
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Pred. No. 9.3e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 infections with Staphylococcus aureus
                                                                                                                                                                                                                                                                          AgrD;
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                                                                                                                                                                                                                                                                          response; treatment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
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Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                         Staphylococcus antibacterial;
                                                                                                                                                                                                                                                                                                                                              08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                    AAM50907
                                                                                                                                                                                                                                                                                                                                                                                         AAM50907 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Examples; Page 22; 37pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New cyclic peptides for treating infections with Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2000-147202/13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UYRQ )
                                                                                                                                                Misc-difference
                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                                                          Protected peptide used in cyclic peptide production.
                                                                                                                 Misc-difference
                                                                                                                                                                      Modified-site
          24-JUN-1998;
                               24-JUN-1999;
                                                                        US6337385-B1
                                                  08-JAN-2002
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UNIV NEW YORK STATE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GVAAXSSLF
                                                                                                                                                                                                                                                                                                                                                                                                                                               GVNASSSLF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                         aureus; AgrD; agr response; inhibitor; antibiotic;
infection; therapy; cyclic.
          98US-090402P
                               99US-0339511
                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                       /note=
                                                                                                         /note=
                                                                                                                                                           /note= "Ser(Bzl)"
                                                                                                                                                                                 note=
                                                                                                                                                                                                       note= "Ser(tBu)"
                                                                                                                                                                                                                            'note= "Z-Gly"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novick RP,
                                                                                                                                                                                 "Ser(Bzl)"
                                                                                            "note linked to peptide"
                                                                                                                                      "note linked
                                                                                                                           peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 English.
                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
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Pred. No. 9.3e+05;
0; Mismatches 2
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                                                                                                         residue 5 to
                                                                                                                                       residue 9 to
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 9;
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                                                                                                                                       form cyclic
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RESULT 10
AAM51002
ID AAM51
XX AAM51
AC AAM51
XX 08-MA
XX 08-MA
XX 10-MA
XX 10-MA
XX 10-MA
XX SqrD2
XX AgrD2
XX MagrD2
XX 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present sequence is that of a protected peptide used in an example of the preparation of novel synthetic cyclic peptides of the invention (see AAM50899-906). The peptide corresponds to the Staphylococcus aureus AgrDII sequence with a Cys5 to Ser mutation (lactone). It was synthesised on a Wang-resin using an Fmoc N-alpha protection strategy. Following chain assembly, the peptide was cleaved from the support and the Ser-5 residue deprotected by treatment with a trifluoroacetic acid anisole: water mixture (90:5:5) for 4 hr. The partially protected peptide-alpha carboxylates were then dissolved in DNF and treated with PyBOP and a catalytic amount of dimethylaminopyridine. Cyclization was complete after 2 hr. The remaining protecting groups were then complete after 2 hr. The remaining protecting groups were then complete by the cyclic peptide is capable of inhibiting the agr response of Staphylococcus aureus. The thiollactone structure within native AgrD peptides is required for activation of this response. Replacement of the thiol ester component of the cyclic ring structure with a lactone (as in the present case) or a lactam can destroy agr response activating activity while preserving and conference activation of this preserving and the preserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Muir TW, Mayville P,
                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                               Staphylococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                           AgrD2; agr response; infection; therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AgrD2 linear thioester peptide
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                                                                                                                                                               US6337385-B1
                                                                                                                                                                                                                                                               Key
Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GVAAXSSLF 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                  aureus
                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                               /note= "C-terminal thioester"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  inhibitor; antibiotic; antibacterial;
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Pred.
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9.3e+05;
hes 2;
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24-JUN-1999;

99US-0339511

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RESULT 11
AAM51003
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                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
               Muir TW,
                                                                                                                                                     US6337385-B1
                                                                                                                                                                             Staphylococcus aureus Synthetic.
                                                                                                                                                                                                                 AgrD2; agr response; infection, therapy.
                                                                                                                                                                                                                                                      AgrD2 linear free acid peptide.
                                                                                                                                                                                                                                                                                 08-MAY-2002
                                                                                                                                                                                                                                                                                                                                  AAM51003 standard; Peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2002-170774/22.
                                                                           24-JUN-1998;
                                                                                                   24-JUN-1999;
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                                    (UYRQ ) UNIV ROCKEFELLER.
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             Mayville P,
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                                                                                                                                                                                                                                                                                (first entry)
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                                                                                                                                                                                                                                inhibitor; antibiotic; antibacterial,
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             Novick RP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 30; DB:
Pred. No. 9.3e-
0; Mismatches
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RESULT 12
AAM51004
ID AAM51
XX AAM51
AC AAM51
XX AGTD2
XX US633
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Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  free acid peptide. The peptide is derived from the cyclic AgrD2 coperated of Staphylococcus aureus group II. AgrD2 is a secreted agr-ncoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrP3 promoter. This allowed activation or inhibition of the agrP3 promoter. This allowed activation or inhibition of the agrP3 promoter cyclic peptide (see AAMS1001), the present peptide was unable to either activate or inhibit the agr response, even when added to cultured cells at uM concentrations. The invention when added to cultured cells at uM concentrations. The invention and methods for preparing them. The cyclic peptides are useful for bacterial interference, especially for the treatment of S. aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                                 24-JUN-1998;
                                                                                                                                                              24-JUN-1999;
                                                                                                                                                                                                             08-JAN-2002.
                                                                                                                                                                                                                                                                                                                                                Misc-difference 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Stpahylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AgrD2; agr response; inhibitor; antibiotic; antibacterial; infection; therapy; lactone; cyclic.
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                                            (UYRQ ) UNIV ROCKEFELLER.
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7; Conserv
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                                                                                                                 98US-090402P
                                                                                                                                                                9908-0339511
                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                            /note=
                                                                                                                                                                                                                                                                                                                                                                                               /note=
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77.8%;
                                                                                                                                                                                                                                                                                                 "note linked to peptide"
                                                                                                                                                                                                                                                                                                                                                                 "note linked to residue 9 peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 30; DB
Pred. No. 9.3e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                         residue 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 23;
9.3e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23;
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Muir TW,

Mayville P,

Novick RP,

Beavis R,

J.

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THE SECRET SECRE
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ABB07160
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence is that of a novel synthetic AgrD2 lactone cyclic peptide in which residue 5 of the peptide is 1 linked to residue 9 via a lactone bond. The peptide is derived from an AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agr29 promoter. This allowed activation or inhibition of the agr response to be monitored spectrophotometrically. The lactone AgrD2 peptide inhibited the agr response of group I S. aureus strains without activating the agr response in group I I To III strains. The invention provides claimed cyclic peptides (see AMM50899-906 and AAM50999) and methods for preparing them, especially peptides where the cyclic bond is a lactam or lactone bond. The cyclic peptides are useful for bacterial interference, cepecially for the treatment of S. aureus infection.
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Best Local S
Matches 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel synthetic, interference and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Autoinducer-2; AI-2; antibiotic; antibacterial; dermatological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABB07160 standard; peptide; 9
Use of autoinducer-2 agonists or antagonists autoinducer-2 receptor, regulating bacterial
                                                                                      WPI; 2002-075235/10.
                                                                                                                                                                                                                                  (UYPR-)
                                                                                                                                                                                                                                                                                                                                                                                                      10-MAY-2001; 2001WO-US15221.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200185664-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     vulnerary; pheromone; agr system; accessory gene regulator; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peptide-mediated quorum sensing inhibitor peptide cyclo-XII.
                                                                                                                                                                                                                                                                                                                     07-DEC-2000; 2000US-254398P
                                                                                                                                                                                                                                                                                                                                                 10-MAY-2000; 2000US-203000P
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                                                                                                                                     BL,
                                                                                                                                                                                                      QUOREX
UNIV TE
                                                                                                                                                                                                                                  UNIV PRINCETON QUOREX PHARM II
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                              Dammel CS,
                                                                                                                                                                                                      TECHNOLOGIES
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81.1%;
                                                                                                                                           Schauder S,
                                                                                                                                                                                                      INT INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 30; DB Pred. No. 9.3e 0; Mismatches
                                                                                                                                                 Shokat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 23;
9.3e+05;
for regulating activity of growth and pathogenesis,
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RESULT 14
ABG15689
ID ABG157
XX ABG15
XX ABG15
XX ABG15
XX Humar
XM Humar
XM Food
XX Homo
XX Claid
XX Claid
XX Claid
XX Claid
XX Claid
XX The
CC Polly
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CC Polly
CC Polly
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CC P
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Best Local Similarity
Thehes 7; Conserve
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                                                                                                                                                                                                                                                                                                         New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; chromosome mapping; gene mapping; gene therapy; forensic;
food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel human diagnostic protein #15680
                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-639362/73.
N-PSDB; AAS79876.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-MAR-2000; 2000US-0540217.
23-AUG-2000; 2000US-0649167.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        quorum sensing.
                                                                                                                                                                                                                                                                                     biodiversity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drmanac RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (HYSE-) HYSEQ INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GVNASSSLF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry
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Pred. No. 9.3e+05;
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Gaps

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The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques

Claim 20; SEQ ID No 46048; 103pp; English.

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RESULT 15
AAY33146
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CC diagnostic amino acid sequences of the invention.
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Best Local S
Matches 7
This invention describes a novel rabbit carboxylesterase polypeptide (I) capable of metabolizing a chemotherapeutic prodrug and its inactive metabolites into an active drug. The invention also describes a composition comprising (I) and a disease-specific responsive promoter. This composition is useful for sensitizing tumor cells to a chemotherapeutic prodrug (preferably CRT-11 or APC) by transfecting into tumor cells, and contacting the sensitized cells with a chemotherapeutic prodrug to inhibit growth of the tumor cells. The composition can also be administered to bone marrow cells to remove tumor cells. The products of the invention are useful for identifying drugs that are inactivated by a carboxylesterase enzyme, and are also useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oryctolagus cuniculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Carboxylesterase; rabbit; liver; tumour cell; chemotherapy; prodrug; disease-specific responsive promoter; CRT-11; APC; resection; recurrence; inhibition; bone marrow cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY33146;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rabbit liver carboxylesterase protein fragment.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 3; Page 63-65; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New carboxylesterase polypeptide for treatment of tumors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1999-540311/45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Danks MK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GVAAXSSLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Potter PM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JUDE CHILDREN'S RES HOSPITAL.
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Pred. No. 6.5;
0; Mismatches
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                                             Query Match
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Matches 7
                                                                                              Sequence
                                                                                                                               identifying compounds containing a COOC ester linkage that are activated by a carboxylesterase enzyme. This sequence represents a rabbit liver carboxylesterase fragment which is described in the method of the
                                                                                                                      invention.
                                             Local Similarity nes 7; Conserv
 248
GVALLSSLF 256
                  GVAAXSSLF
                                                                                              543 AA;
                                                Conservative
                        φ
                                                           81.1%;
77.8%;
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                                                           Score 30; DB 20;
Pred. No. 1.5e+02;
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Search completed: January 29, Job time: 36.0735 secs 2004, 14:52:11

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Result
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Maximum Match 100%
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Maximum DB
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 GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd
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hypothetical prote hypothetical prote transposase alr850	prot 5.12a prot		(0 (0		ADP,ATP carrier pr ADP,ATP carrier pr

ALIGNMENTS

RESULT 1 T18528

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conserved hypothetical protein ML1255 [imported] - Mycobacterium leprae C;Species: Mycobacterium leprae C;Species: Mycobacterium leprae C;Sate: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 10-May-2001 C;Accession: A87066 R;Cole, S.T.; Eiglmeier, K.; Parkhill, J.; James, K.D.; Thomson, N.R.; Wheeler, R.; Davies, R.M.; Devlin, K.; Duthoy, S.; Feltwell, T.; Fraser, A.; Hamlin, N.; eam, M.A.; Rutherford, K.M.
Nature 409, 1007-1011, 2001
Na
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R;Townson, S.M.; Hanson, G.R.; Upcroft, J.A.; Upcroft, P.
Eur. J. Biochem. 220, 439-446, 1994
A;Title: A purified ferredoxin from Giardia duodenalis.
A;Reference number: $42359; MUID:94170792; PMID:8125101
A;Recession: T18528
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Rocession: 1-1253 <TOW>
A;Cross-references: EMBL:L27221; NID:g960281; PID:g960283; PIDN:AAA74894.1
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A;Cross references: GB;AL450380; NID;g13093193; PIDN:CAC31636.1; GSPDB:GN00147 C;Genetics:
A;Gene: ML1255
C;Superfamily: Mycobacterium leprae hypothetical protein MLCB1610.16
                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-163 <STO>
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A; Gene: xv2; C; Superfamily:
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(;Species: Mycobacterium tuberculosis
C;Date: 17-7ull-1998 #sequence_revision 17-Jul-1998 #text_change 28-Jul-2000
C;Accession: C70866
R;Colle, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.;
Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Hc
Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
Nature 393, 537-544, 1998
translocation lipoprotein C; Species: Yersinia pestis
                                                                                                                                                                                                                                                                                                                                                                                                          R;James, K.D.; Parkhill, J.; Barrell, B.G.; Rajandream, submitted to the EMBL Data Library, March 1999 A;Reference number: Z22949
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A;Accession: C70866
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A; Status: preliminary; translated
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A;Experimental source: strain H37Rv
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Matches
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;Residues: 1-169 < JAM>
;Cross-references: EMBL:AL049913; PIDN:CAB43162.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ypothetical protein MLCB1610.16 [imported] - Mycobacterium leprae
| Species: Mycobacterium leprae
| Date: 21-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 28-Jul-2000
| Accession: T45243
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 C;Accession: B83602
R;Stover, C.K.; Pham, X.Q.; Erwin, adman, S.; Yuan, Y.; Brody, L.L.;
                                 conserved hypothetical protein PA0340 [imported] - C;Species: Pseudomonas aeruginosa C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 C;Accession: B83602
                                                                                                         RESULT
B83602
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virC-region lipoprotein yscJ (YlpB) - Yersinia enterocolitica plasmid pYV
C;Species: Yersinia enterocolitica
C;Date: 21-Feb-1992 #sequence_revision 21-Feb-1992 #text_change 17-Mar-2000
C;Accession: A40049
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: EMBL:AF053946; NID:g2996222; PIDN:AAC62607.1; PID:g2996284
A;Experimental source: strain KIM
R;Perry, R.D.; Strailey, S.C.; Fetherston, J.D.; Rose, D.J.; Gregor, J.; Blattn
Infect. Immun. 66, 4611-4623, 1998
                               ş
                                                                                                                            C; Superfamily: invasin secretion factor mxiJ C; Keywords: lipid binding; lipoprotein
                                                                                                                                                                                                                                                      A;Reference number: A40361; MUID:91317716; PMID:1860816 A;Accession: A40049
                                                                                                                                                                                                                                                                                           R;Michiels, T.; Vanooteghem, J.C.; Lambert de Rouvroit, J. Bacteriol. 173, 4994-5009, 1991
A;Title: Analysis of virC, an operon involved in the sec
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A;Cross-references: EMBL:AF074612;
A;Experimental source: strain KIM5
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N
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Coulter, S.N.; Folger, K.R.; Kas,

P.; Hickey, M.J.; A.; Larbig, K.; L

#text_change 01-Mar-2002

Pseudomonas aeruginosa

(strain

PAC

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C;Accession: AC2730

R;Wood, D.W.; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; erage, G.; Gillet, W.; Grant, C.; Guenthner, D.; Kutyavin, T.; Karp, P.; Romero, P.; Zhang, S.
Science 294, 2317-2323, 2001

A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, ster, B.W.
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A;Title: Complete genome seq
A;Reference number: A82950;
                                             A; Molecule type: DNA
A; Residues: 1-305 < KUR>
                                                                                                          A; Title: Genome Sequence of A; Reference number: A97359; A; Accession: D97511
                                                                                                                                                                          R;Goodner, B.; Hinkle, G.; Gattung, A.; Liu, F.; Wollam, C.; Allinger, Science 294, 2323-2328, 2001
                                                                                                                                                                                                                                             probable integral membrane protein. (AL132674) [imported] - Agrobacterium to C;Species: Agrobacterium tumefaciens C;Date: 30-Sep-2001 #sequence_revision 30-Sep-2001 #text_change 18-Nov-2002 C;Accession: D97511
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A;Residues: 1-305 <KUR>
A;Residues: 1-305 <KUR>
A;Cross-references: GB:AE008688; PIDN:AAL42257.1;
A;Experimental source: strain C58 (Dupont)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens C58 A;Reference number: AB2577; MUID:21608550; PMID:11743193 A;Accession: AC2730
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                       Cross-references: GB:AE007869;
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50; MUID:20437337; PMID:10984043
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                  PIDN:AAK87045.1; PID:g15156295; GSPDB:GN00169
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Pred. No.
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); Mismatches
                                                                                                                                                                                                S.; Miller, N.; Blanchard, M.; Qurollo, M.; Doughty, D.; Scott, C.; Lappas, C.;
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Markelz, B.,
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A;Authors: Kaine, B.P.; Borodovsky, M.; Klenk, H.P.; Fraser, C.M.; Smith, H.O.; Woese A;Title: Complete genome sequence of the methanogenic archaeon, Methanococcus jannasc A;Reference number: A64300, MUID:96337999; PMID:8688087
A;Accession: E64399
                                                                                                                                                                                                                                                                                                                                                                                                                   264399
hypothetical protein MJ0797 - Methanococcus jannaschii
C;Species: Methanococcus jannaschii
C;Species: Methanococcus jannaschii
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C;Accession: E64399
C;Accession: E64399
C;Accession: Maite O: Olsen, G.J.; Zhou, L.; Fleigchmann, R.D.; Sutton, J. M.
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                                                                                                                                                                                                  A;Molecule type: DNA
A;Residues: 1-367 <B
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                                             Matches
                                                                  Query Match
Best Local
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position:

FOR720661-721764

GB:U67524; GB:L77117; NID:g2826321;

PIDN:AAB98792.1; PID:g1591494

Similarity GVAAXSSL

78.4%; 87.5%;

Score 29; Pred. No. Mismatches

DB 48;

2;

Length 367;

Conservative

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Indels

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Gaps

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u. Biol. Chem. 263, 3486-3495, 1988
A;Title: Complete covalent structure of 60-kDa esterase A;Reference number: A29923; MUID:88139431; PMID:3343253 A;Accession: A29923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Date: 08-Dec-1988 #sequence_revision C;Accession: A29923; A29471 R;Korza, G; Ozols, J. Biol. Chem. 263, 3466-3495, 1988 A;Title: Complete covalent structure of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A29923
carboxylesterase
C;Species: Orycto
                                                                                                                                                                                   F;32-526/Domain: cholinesterase homology <CHE>F;61,363/Binding site: carbohydrate (Asn) (covalent) #status experimental F;195,441/Active site: Ser, His #status experimental
                                                                                                                                                                                                                                 A;Molecule type: protein
A;Residues: 1-71;193-208;436-446;532-539 <OZO>
C;Superfamily: cholinesterase; cholinesterase homology
C;Keywords: carboxylic ester hydrolase; enoplasmic reticulum; glycoprotein
                                                                                                                                                                                                                                                                                                              A;Reference number: A;Accession: A29471
                                                                                                                                                                                                                                                                                                                           J. Biol. Chem. 262, 15316-15321, 1987
A;Title: Isolation and characterization of
A;Reference number: A29471; MUID:88033124;
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A;Map position: ci
RESULT
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                                                                                                                   Similarity 7; Conserv
                                                   GVALLSSLF 230
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PMID:3667634
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23;
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R;Smith, D.R.; Doucette-Stamm, L.A.; Deloughery, C.; Lee, H.; Dubois, J.; Aldredge, T.; Qiu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiwani, N. ki, S.; Church, G.M.; Daniels, C.J.; Mao, J.; Rice, P.; Noelling, J.; Reeve, J.N. J. Bacteriol. 179, 7135-7155, 1997

J. Bacteriol. 179, 7135-7155, 1997

A;Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: funct A;Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: funct A;Reference number: A69000; MUID:98037514; PMID:9371463

A;Accession: C69224

A;Status: preliminary; nucleic acid sequence not shown; translation not shown
aldolase C - chicken (fragment)
C,Species: Gallus gallus (chicken)
C,Date: 04-Gep-1997 #sequence_revision
C,Accession: I51291
C,Mccession: I51291
E,Meighan-Mancha, R.L.; Tolan, D.R.
R,Meighan-Mancha, R.L.; Tolan, D.R.
J. Cell. Biochem. 57, 433-431, 1995
A,Title: Noncoordinate changes in the s
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A;Title: Sequence and analysis of chromosome 4 of the plant Arabidopsis thaliana.
A;Reference number: A85001; MUID:20083488; PMID:10617198
A;Accession: F85056
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A; Residues: 1-1668 <MTH>
A; Cross-references: GB:AE000868; GB:AE000666; NID:92622025;
A; Experimental source: strain Delta H
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A; Residues: 1-398 <STO>
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Pred. No.
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     steady-state
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Search completed: January 29, Job time: 12.1176 secs

2004, 14:58:21

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AgrD protein [imported] - Staphylococcus aureus (strain N315)
C;Species: Staphylococcus aureus
C;Species: 10-May-2001 #sequence_revision 10-May-2001 #text_change 22-Oct-2001
C;Accession: C89995
R;Kuroda, M; Ohta, T; Uchiyama, I, Baba, T; Yuzawa, H; Kobayashi, I; Cui, L;
ma, A; Mizutani-Ui, Y; Kobayashi, N; Sawano, T; Inoue, R; Kaito, C; Sekimizu,
C; Shiba, T; Hattori, M; Ogasawara, N; Hayashi, H; Hiramatsu, K.
Lancet 357, 1225-1240, 2001
A;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus.
A;Reference number: A89758; MUID:21311952; PMID:11418146
A;Accession: C89995
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A;Accession: I51291
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mENA
A;Residues: I-42 <meI>
A;Residues: I-42 <meI

A;Residues
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A;Experimental source: strain N315
C;Genetics:
A;Gene: agrD
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A; Residues: 1-47 < KUR>
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seq length: 2000000000
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Gapop 10.0 , Gapext 0.5
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Copyright (c) 1993 - 2004 Compugen Ltd.
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YSCJ YEREN
YSCO YEREN
YSCO YEREN
ESTI RABIT
Y797 METVA
HCP FUSUN
SRG2 CAESIL
PDXA XYLPA
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Y62 METVA
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   9 homo sapien
2 rattus norv
1 oryctolagus
                                                       9 neisseria m
4 neisseria m
7 escherichia
                                                                                                           5 lampetra ja
8 mus musculu
2 rattus norv
                                                                                                                                                                                                     0 anabaena sp
3 gallus gall
5 tritirachiu
                                                                                                                                                                                                                                                         3 solanum tub
9 zea mays (m
7 zea mays (m
                                                                                                                                                                 saccharomyc
methanococc
                                                                                                                                                                                                                                                                                                                              mus musculu
                                                                                                                                                                                                                                                                                                                                                   oryctolagus
rattus norv
                                                                                                                                                                                                                                                                                                              oryza sativ
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YSCJ_YEREN
ID YSCJ_YEREN
AC Q01251;
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4 UI	44	43	42	41	40	39	38	ω 7	ω 6	ω U	34
26	26	26	26	26	26	26	26	26	26	27	27
70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	73.0	73.0
364	362	318	280	247	246	220	213	179	79	1321	983
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ALF2_LAMJA	Y022_METJA	KDGT_ERWCA	K1C3_XENLA	CYCX_DESDE	TRUA_THEVO	THIE_AGRTS	THIE THEAC	YCFJ_ECOLI	U197_CAESL	AB11_RABIT	B3A4_HUMAN
P53446	Q60342	Q9xb52		P81040			Q9hiq4	P37796	Q965t1	Q9n0v3	Q96q91
		erwinia ca	xenopus]	α.	d	agrobacteri	thermoplasm	escherichi	G	oryctolagu	homo

ALIGNMENTS

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AC Q01251, PT 01-APR-1993 (Rel. 25, Last sequence update) DT 01-APR-1993 (Rel. 25, Last sequence update) DT 01-APR-1993 (Rel. 25, Last amoutation update) DT 01-SESP-2003 (Rel. 25, Last amoutation update) DE 01-SESP-2003 (Rel. 25, Last amoutation update) RESUDIALISES (Rel.

밁 S

143

GVAASASVF 151 GVAAXSSLF

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RESULT 2
YSCU_YERPE
  MEDLINE=92250432; PubMeda=1577700;

Rimpilaeinen M., Forsberg A., Wolf-Watz H.;

Rimpilaeinen M., Forsberg A., Wolf-Watz H.;

"A novel protein, LcrQ, involved in the low-calcium response of Yersinia pseudotuberculosis shows extensive homology to YopH.";

J. Bacteriol. 174:3355-3363 (1992).

-i- FUNCTION: REQUIRED FOR THE EXPORT PROCESS OF THE YOP PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JUL-1993
01-JUL-1993
15-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                       SPECIEST PROBLES, STRAIN=CO-92 / Biovar Orientalis, PLASMID=pCD1, MEDLIND=21470413; PubMed=11586360; Parkhill J., Wren B.W., Thomson N.R., Titball R.W., Holden M.T.G., Prentice M.B., Sebaihia M., James K.D., Churcher C., Mungall K.L., Prentice M.B., Sebaihia M., James K.D., Churcher C., Mungall K.L., Prentice, Basham D., Bentley S.D., Brooks K., Cerdeno-Tarraga A.M., Chillingworth T., Cronin A., Davies R.M., Davis P., Dougan G., Peltwell T., Hamiin N., Holroyd S., Jagels K., Karlyshev A.V., Leather S., Moule S., Cyston P.C.F., Quail M., Rutherford K., Simmonds M., Skelton J., Stevens K., Whitehead S., Barrell B.G.; "Genome sequence of Yersinia pestis, the causative agent of plague:"; Nature 413:523-527(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUL-1993 (Rel. 26, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
YOP proteins translocation lipoprotein J precursor (Lipoprotein ylpB)
(Low calcium response locus protein KA).
YSCJ OR YLPB OR LCRKA OR YPCD1.59 OR Y5019 OR Y0022.
Yersinia pestis, and
Yersinia pestis, and
Yersinia pestosuberculosis.
Plasmid pCD1, and Plasmid pIB1.
Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SPECIES-Y.pestis; STRAIN-KIM5 / Biovar Mediaevali MIDLINE=98422474; PubMed=9748454; Hu P., Elliott J., McCready P., Skowronski E., Ga Kobayashi A., Brubaker R.R., Garcia E.; "Structural organization of virulence-associated pestis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
SPECIES=Y pestis; STRAIN=KIM5 / E
MEDLINE=98427122; PubMed=9746557;
Perry R.D., Straley S.C., Fethere
Blattner F.R.;
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content, is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
SPECIES=Y.pseudotuberculosis; STRAIN=YPIII;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "DNA sequencing and analysis of Yersinia pestis KIM5.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Enterobacteriaceae; Yersinia.
NCBI_TaxID=632, 633;
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                                                                                                                                                  -!- INDUCTION: At 37 deg-!- SIMILARITY: BELONGS
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                                                                                                                                                degrees Celsius in the absence of calcium. NGS TO THE YSCJ FAMILY OF LIPOPROTEINS.
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R EMBL; AF053946; AAC62607.1; -.

R EMBL; M83986; AAA625607.1; -.

R EMBL; M83986; AAA27551.1; -.

R PIR; T43566; T43566.

R InterPro; IPR003282; SecIIIOMPK.

R InterPro; IPR003282; SecIIIOMPK.

R InterPro; IPR006182; VScJ FliF.

R Pfam; PF01514; VScJ FliF; -1.

R PFINYS; PR01339; TYDE3OMKPROT.

R PRINYS; PS0013; PROXAR LIPOPROTEIN; 1.

R PROSITE; PS00013; PROXAR LIPOPROTEIN; 1.

R PROSITE; PS00013; PROXAR LIPOPROTEIN; 1.
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IPR00135; COesterase; 1.
PR051TE; P$00112; CARBOXYLESTERASE B 1; 1.
PR051TE; P$00941; CARBOXYLESTERASE B 2; 1.
PR051TE; P$00941; CARBOXYLESTERASE; E.
Glycoprotein; Hydrolase; Serine esterase; E.
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01-0CT-1989 (Rel. 12, Created)
01-FEB-1991 (Rel. 17, Last sequence up
28-FEB-2003 (Rel. 41, Last annotation
28-FEB-2003 (Rel. 41, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RABIT
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                  "Isolation and characterization of a 60-kilodalton glycoprotein esterase from liver microsomal membranes.";
J. Biol. Chem. 262:15316-15321(1987)
-i- FUNCTION: INVOLVED IN THE DETOXIFICATION OF XENOBIOTICS AND THE ACTIVATION OF ESTER AND AMIDE PRODRUGS.
-i- CATALYTIC ACTIVITY: A carboxylic ester + H(2)0 = an alcohol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Liver carboxylesterase 1 (EC 3.1.1.1).
Oryctolagus cuniculus (Rabbit).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Lagomorpha, Leporidae, Oryctolagus.
                                                                                                                                                                                                                                  -!- SIMILARITY: Belongs to PIR; A29923; A29923. HSSP; P21836; 1MAH.
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MEDLINE=88033124; PubMed=3667634;
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InterPro; IPR000379; Ser_estrs_site.
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    -!- SUBCELLULAR LOCATION: Microsomal membrane, lumen of endoplasmic

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6; Conservative
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MEDINE=96337999; PubMed=8688087;

Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,

Sutton G.G., Blake J.A., FitzGerald L.M., Claycon R.A., Gocayne J.D.,

Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Reich C.I.,

Overbeek R., Kirkness E.F., Weinstock K.G., Merrick J.M., Glodek A.,

Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D.,

Utterback T.R., Kelley J.M., Peterson J.D., Sadow P.W., Hanna M.C.,

Cotton M.D., Roberts K.M., Hurst M.A., Kaine B.P., Borodovsky M.,

Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.;

"Complete genome sequence of the methanogenic archaeon, Methanococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1997
01-NOV-1997
16-OCT-2001
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                                                                          TRANSMEM SEQUENCE
                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical MJ0797.
                                                                                                                                                                                 EMBL; U67524; AAB98792.1; PIR; E64399; E64399. TIGR; MJ0797; -.
                                                                                                                                                                                                                                                                                                                                                                   Science 273:1058-1073(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Archaea; Euryarchaeota; Methanococci; Methanococcales; Methanocaldococcaceae; Methanocaldococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Methanococcus jannaschii.
                                                                                                                               Hypothetical
TRANSMEM
                                                                                                                                                         Pfam;
                                                                                                                  TRANSMEM
                                                                                                                                                                    nterPro;
                                                                                                                                                                                                                                                                                                                                                                                 annaschii
                  SUBCELLULAR LOCATION: Integral membrane protein SIMILARITY: TO M.JANNASCHII MJ1507.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   METJA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  222
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GVAAXSSLF
GVAAXSSL 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GVALLSSLF 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Rel. 35, Created)
(Rel. 35, Last sequence update)
(Rel. 40, Last annotation update)
Uprotein MJ0797.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
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                                                   Length 367;
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                        Indels
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HCP-FIDER
HCP-FIDER
AC QBRFIL
DT 28-FIE
DT 15-SE
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QBRFL1;
28-FEB-2003 (Re
28-FEB-2003 (Re
15-SEP-2003 (Re
Hydroxylamine r
HCP OR FN0684.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bhattacharyya A., Bartman A., Gardner W., Grechkin G., Vasieva O., Chu L., Kogan Y., Chaga O., Goltsman E., Be Larsen N., D'Souza M., Walunas T., Pusch G., Haselkorn Fonstein M., Kyrpides N., Overbeek R., "Genome sequence and analysis of the state of the sequence of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EW the European Bioinformatics Institute. There are no reserves by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreement (See http://www.isb-sorsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- FUNCTION: Catalyzes the reduction of hydroxylamine and H(2)0 (By similarity).
-!- COFACTOR: Binds 2 Fe/S clusters: 1 4Fe-4S cluster a 4Fe-20-2S cluster (By similarity).
-!- SUBCELLULAR LOCATION: Cytoplasmic (By similarity).
-!- SIMILARITY: Belongs to the HCP family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              METAL
METAL
METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AE010579; AAL94880.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Genome sequence and analysis of the oral bacterium Fusobacterium nucleatum strain ATCC 25586.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oxidoreductase; Metal-binding; Iron; Iron-sulfur;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF03063; Prismane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HAMAP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       J. Bacteriol. 184:2005-2018(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=21886394; PubMed=11889109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fusobacterium nucleatum
Bacteria; Fusobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MF_00069; -;
ro; IPR004137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          proteome.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PR004137; Prismane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25586;
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(Rel. 41, Last sequence update)
(Rel. 42, Last annotation update)
ne reductase (EC 1.7.-.-) (Hybrid-cluster protein)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
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Fusobacterales; Fusobacteriaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IRON-SULFUR (4FE-4S)
IRON-SULFUR (4FE-4S)
IRON-SULFUR (4FE-4S)
IRON-SULFUR (4FE-4S) (
IRON-OXO-SULFUR (4FE-2S) (
IRON-OXO-SULFUR (4FE-2C)
IRON-OXO-SULFUR (4FE-2C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             There are no restrictions ong as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
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(BY SIMILARITY).
(BY SIMILARITY).
(BY SIMILARITY).
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., Zhu L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bernal A.,
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MBL outstation -
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Query Match
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                                              SEQUENCE
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 Similarity 6; Conserv
                                              566
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          78.4%;
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                                                       IRON-OXO-SULFUR (4FE-20-2S)
(BY SIMILARITY).
           Score 29;
Pred. No.
                                               46D4EDDC9F5D0232
             35;
                      ۲.
                       Length 566;
                                               CRC64;
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Conservative

Mismatches

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Indels

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Gaps

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GVAAXSSLF

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ZW-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DE 4-hydroxythreonine-4-phosphate dehydrogenase (EC (phosphohydroxy)-1-threonine dehydrogenase).
CS PDXA OR XF0839.
CS Xylella fastidiosa.
CS Xylella fastidiosa.
CC Xanthomonadaceae; Xylella.
X NCBI_TaxID=2371;
V [1]
                                                                                                                                                                   RESULT 7
PDXA_XYLFA
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SRG2_CAEEL
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Matches 6
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TRANSMEM
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01-NOV-1995
28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             modified and this statement is not removed. entitles requires a license agreement (see or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Substitle P., to the EMBL/GenBank/DDBJ databases.

-I- SUBCELLULAR LOCATION: Integral membrane protein (Probable).

-I- SIMILARITY: BELONGS TO THE C.ELEGANS RECEPTOR-LIKE PROTEIN SRG
                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR00698; TMPROTEI Transmembrane; Multigene
                                                                                                                                                                                                                                                                                                                                                                                                                    WormPep; C18F10.5; CE00782.
InterPro; IPR000609; Srg.
Pfam; PF02118; Srg; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Caenorhabditis elegans.
Eukaryota, Metazoa, Nematoda, Chromadorea, Rhabditida, Rhabditoidea,
Rhabditidae, Peloderinae, Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                 Transmembrane;
TRANSMEM 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; U00049; AAC47052.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Serpentine receptor class gamma 2 (Srg-2 protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=6239;
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                                                                                                                                                                                                                                            1 GVAAXSSLF 9
                                                                                                                                                                                                                                                                    Similarity 6; Conserv
                                                                                                                                                                                                                      GTAAAESLF 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GVAAYSTVF 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Rel. 32, Created)
(Rel. 32, Last sequence update)
(Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                           132
171
219
252
32675
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                                                                                                                                                                                                                                                                                75.7%;
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W; 4FD65AD60C65F2D7 CRC64;
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Pred. No.
                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        moved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                            DB
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                                                                                                                                                                                                                                                                                            1; Length 282;
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RESULT 8
ADT1_WHEAT
ID ADT1_W
AC Q41629

ADT1_WH Q41629;

WHEAT

PRT;

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RA Alvarenga R., Alves L.M.C., Arruda P., Abreu F.A., Acencio M.,
RA Barros M.H., Bonaccorsi E.D., Bordin S., Bove J.M., Briones M.R.S.,
RA Bueno M.R.P., Camargo A.A., Camargo L.B.A., Carraro D.M., Carrer H.,
RA Colauto N.B., Colombo C., Costa F.E., Costa M.C.R., Costa Neto C.M.,
RA Colauto N.B., Cristofani M., Dias-Neto E., Docena C., El-Dorry H.,
RA Facincani A.P., Ferreira A.J.S., Ferreira V.C.A., Ferro J.A.,
RA Fraga J.S., Franca S.C., Franco M.C., Fromme M., Furlan L.R.,
RA Fraga J.S., Junqueira M.L., Kemper E.L., Kitajima J.P.,
RA Krieger J.E., Kuramae E.E., Laigret F., Lambais M.R., Leite L.C.C.,
RA Krieger J.E., Kuramae E.E., Laigret F., Lambais M.R., Leite L.C.C.,
RA Machado M.A., Madeira A.M.B.N., Madeira H.M.F., Marino C.L.,
Marques M.V.F., Lopes S.A., Lopes C.R., Machado J.A.,
RA Marques M.V.F., Lopes S.A., Lopes C.R., Machado J.A.,
RA Manda S.L., Nascimento A.L.T.O., Netto L.E.S.,
RA Moon D.H., Nagai M.A., Nascimento A.L.T.O., Netto L.E.S.,
RA Mani A. Jr., Nobrega F.G., Nunes L.R., Oliveira M.A.,
RA Menck C.P.M., Miracca E.C., Myaki C.Y., Monteiro-Vitorello C.B.,
RA Quaggio R.B., Roberto P.G., Rodrigues V., de Rosa A.J.M.,
Quaggio R.B., Roberto P.G., Rodrigues V., de Rosa A.J.M.,
RA Quaggio R.B., Roberto P.G., Rodrigues V., de Rosa A.J.M.,
RA de Solveira J.F., Silvesti M.L.Z., Siqueira M.A., Jesinako M.H.,
RA de Solva A.P., Terenzi M.F., Truffi D., Tsai S.M., Tshako M.H.,
RA Zago M.A., Zatz M., Meidanis J., Setubal J.C.;
RT "The genome sequence of the plant pathogen Xylella fastidiosa.",
RA Zago M.A., Zatz M., Perisa the NAD-dependent oxidation of 4
(phosphohydroxy) butyric acid which spontaneously decarboxylate to
CC (phosphohydroxy) butyric acid which spontaneously decarboxylate to
CC contino A.D. Catalyzes the NAD-dependent oxidation of 4
(phosphohydroxy) bropshohydroxy) ropan-2-one (3-amino-2-oxopropyl
CC antino 3-yoo-4-phosphohydroxy) bropshohydroxy) threenine + NADH.
                                                                                Query Match
Best Local S
Matches 7
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STRAIN=9a5c;
MEDLINE=20365717; PubMed=10910347;
MEDLINE=20365717; PubMed=10910347;
                                                                                                                                                                EMBL; AE003923; AAF83649.1; -.
PIR; D82756; D82756.
HAMAP, MF 00536; -; 1.
InterPro; IPR005255; PdxA.
Pf4am; PF04166; PdxA; 1.
TIGRROMS; TIGRROMSS7; pdxA; 1.
SEQUENCE 330 AA; 34553 MW; A981237FCE44CF71 CRC64;
                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pyridoxal phosphate.
SUBCELLULAR LOCATION: Cytoplasmic (Probable).
SIMILARITY: BELONGS TO THE POXA FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino-3-oxo-4-phosphonooxybutyrate + NADH. PATHWAY: De novo synthesis of pyridoxine (vitamin
302
                                         ы
                                                                                Similarity
7; Conserv
GVADPSSLF 310
                                         GVAAXSSLF 9
                                                                                    Conservative
                                                                                                       75.7%;
                                                                         0
                                                                                                       Score 28;
Pred. No.
                                                                                  Pred. No. 36;
); Mismatches
                                                                                                       DB 1;
                                                                                  2
                                                                                                                           Length 330,
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Best Local S
Matches 6
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IIsobazzi V., Poli A., Blanco A., Palmieri F.;
IIsobazzi V., Poli A., Blanco A., Palmieri F.;
"Nucleotide sequences of two genes (ANT-G1 and ANT-G2) encoding adenine nucleotide translocator of wheat mitochondria.";
(In) Plant Gene Register PGR96-016.
(In) Plant Gene Register PGR96-016.
-!- FUNCTION: CATALYZES THE EXCHANGE OF ADP AND ATP ACROSS THE MITOCHONDRIAL INNER MEMBRANE
-!- SUBUNIT: Homodimer (By similarity).
                                                             15-JUL-1998
15-JUL-1998
16-OCT-2001
                                                                                                                                                                                                                                                                                                          TRANSMEM
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TRANSIT
CHAIN
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InterPro; IPR002067; Mit_carrier.
InterPro; IPR001993; Mitoch_carrier
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Triticum aestivum (Wheat).
Tukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae;
Triticeae; Triticum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
ADP,ATP carrier protein 1, mitochondrial precursor translocase 1) (Adenine nucleotide translocator 1)
                                                                                                                   ADT2
  Eukaryota;
                                     translocase
                                                    ADP, ATP carrier
                                                                                                    Q41630;
                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                              Mitochondrion; Inner membrane; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=4565;
          Triticum aestivum (Wheat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- SIMILARITY: Belongs to the mitochondrial carrier family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN: COMPOSED OF THREE HOMOLOGOUS DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                inner membrane
                                                                                                                 WHEAT
                                                                                                                                                                               144
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF00153; mito
                                                                                                                                                                                                       1 GVAAXSSLF 9
                                                                                                                                                                                                                               6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                         PR00926; MITOCARRIER.; 2.
                                                                                                                                                                                                                                                                                                                                                                                                 peptide;
                                                                                                                                                                               GAAGASSLF 152
Viridiplantae;
                                                                                                                                                                                                                                                                                (Rel. 36, Created)
(Rel. 36, Last sequence update)
(Rel. 40, Last annotation update)
rier protein 2, mitochondrial precursor
2) (Adenine nucleotide translocator 2)
                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                   ΑA;
                                                                                                                 STANDARD;
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52
115
157
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                                                                                                                                                                                                                                                                                   35961 MW;
                                                                                                                                                                                                                                             75.7%;
66.7%;
 Streptophyta; Embryophyta; Tracheophyta;
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Pred.
                                                                                                                                                                                                                                                                                                                                               ADP, ATP CARRIER
1 (POTENTIAL).
2 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                       MITOCHONDRION
                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                  DOC9464DD43AEAF3
                                                                                                                                                                                                                                                                                                                     (POTENTIAL).
                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                          28;
                                                                                                                331
                                                                                                                                                                                                                                          DB
36;
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                                                                                                                                                                                                                                                        Length 331;
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                                    (ADP/ATP (ANT 2).
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RESULT 10
SFUA, SERMA
ID SFUA,
AC P2147
DT 01-M
DT 15-U
DT 15-
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Best Local
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TRANSMEM
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    Angerer A., Gaisser S., Braun V.;
"Nucleotide sequences of the sfuA, sfuB, and sfuC genes of
marcescens suggest a periplasmic-binding-protein-dependent
transport mechanism.";
                                                                                                                                                                     Bacteria; Proteobacteria; Gam
Enterobacteriaceae; Serratia.
                                                                                                                                                                                                                Serratia marcescens.
                                                                                                                                                                                                                                                   01-MAY-1991 (Rel. 18,
01-MAY-1991 (Rel. 18,
15-JUL-1999 (Rel. 38,
Iron(III)-binding peri
                                                                                                                                                                                                                                                                                                                   P21408;
01-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                 SERMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restrues by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sorsend an email to license@isb-sib.ch).
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"Mucleotide sequences of two genes (ANT-G1 and ANT-G2) e
adenine nucleotide translocator of wheat mitochondria.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=4565;
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Triticeae; Triticum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR002067; Mit_carrier.
InterPro; IPR001993; Mitoch_carris
Pfam; PF00153; mito_carr; 3.
PRINTS; PR00926; MITOCARRIER.
PROSITE; PS00215; MITOCH_CARRIER;
Mitochondrion; Inner_membrane; Rej
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; X95864; CAA65120.1;
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                                                                               WEDLINE=90130288; PubMed=2404942;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (II)
                                                                                                          SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CISSUE=Leaf;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ) Plant Gene Register PGR96-01 FUNCTION: CATALYZES THE EXCHIMITOCHONDRIAL INNER MEMBRANE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN: COMPOSED OF THREE HOMOLOGOUS DOMAINS. SIMILARITY: Belongs to the mitochondrial carrier family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBCELLULAR LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBUNIT: Homodimer
                                                                                                                                                                                                                                                                                                                                                           SERMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   144
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          peptide; Multigene
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140
201
240
296
31
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52
115
157
257
257
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35790
                                                                                                                                                                                                                                                     periplasmic protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      75.7%;
                                                                                                                                                                                                                                                                           Last sequence update)
                                                                                                                                                                                                                                                                                                                     Created)
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N: Integral membrane
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THE EXCHANGE OF
                                                                                                                                                                                         Gammaproteobacteria; Enterobacteriales;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 28; DB pred. No. 36; 0; Mismatches
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ADP, ATP CARRIER 1 (POTENTIAL).
2 (POTENTIAL).
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4 (POTENTIAL).
5 (POTENTIAL).
6 (POTENTIAL).
265DE6AA41557908 C
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                                                                                                                                                                                                                                                                                                                                                             338
                                                                                                                                                                                                                                                   update)
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(See http://www.isb-sib.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 331;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CRC64;
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tent is in no
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                                              Serratia
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REMEL; M33815; ASEUA.

R PIR; A35.08; ORSEUA.

DR HSSP; P35755; IMRP.

DR InterPro; IPR006059; SBP_bac_1.

DR InterPro; IPR006051; SBP_dom1.

DR Pfam; PF01547; SBP bac_1; 1.

DR Pfam; PF01037; SBP_BACTERIAL_1; 1.

DR PROSITE; PS01037; SBP_BACTERIAL_1; 1.

PROSITE; PS01037; SBP_BACTERIAL_1; 1.

DR PROSITE; PS01037; SBP_BACTERIAL_1; 1.

PROSITE; PS01037; SBP_BAC_1; 1.

PROSITE; PS01037; PS010
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ALFA_HU
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Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
TISSUE=Fibroblast;
MEDLINE=87161904; P.
Izzo P., Costanzo P
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-!- FUNCTION: INVOLVED IN A PERIPLASMIC BINDING-PROTEIN-DEPENDENT IRON TEANSPORT SYSTEM, WHICH IS INDEPENDENT OF TONE, EXBB, SIDEROPHORE, OR ANY OUTER MEMBRANE PROTEIN. HOWEVER, IT IS NOT CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FE(III) IS SOLUBILIZED AND TAKEN UP ACROSS THE OUTER CLEAR HOW FERNING CLEAR HOW FERNING PROTECT CLEAR HO
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01-APR-1988 (Rel. 07, Last sequence up
15-SEP-2003 (Rel. 42, Last annotation
Fructose-bisphosphate aldolase A (EC 4
(Lung cancer antigen NY-LU-1).
ALDOA OR ALDA.
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01-NOV-1986
TISSUE=Liver;
MEDLINE=85306986; PubMed=3840020;
                                                            SEQUENCE FROM
                                                                                                                                                      expression by Bur. J. Bioche
                                                                                                                                                      Izzo P., Costanzo P., Lupo A., Rippa "Human aldolase A gene. Structural or expression by multiple promoters and Eur. J. Biochem. 174:569-578(1988).
                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A MEDLINE=88271327;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Salvatore F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                            "A new human species of aldolase A mRNA
Eur. J. Biochem. 164:9-13(1987).
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[1]
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SUBCELLULAR LOCATION: I
SIMILARITY: BELONGS TO
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                                                                                                                                                                                                                                             PubMed=3391172;
P., Lupo A., Rippa
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P., Lupo A., Ri
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Primates;
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e. Structural
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Catarrhini;
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                                                                                                                                                                                 pa E., Paolella G., Salvatore F.;
organization and tissue-specific
nd alternate mRNA processing.";
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i, Hominidae;
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MEDLINE=91278081; 1
Gamblin S.J., David
Littlechild J.A., 1
"Activity and spec
VARIANT HEMOLYTIC ANEMIA GLY-128.

MEDLINE-91035340; PubMed-2229018;

Takasaki Y., Takahashi I., Mukai T., Hori K.;

"Human aldolase A of a hemolytic anemia patient with substitution: characteristics of an enzyme generated transfected with the expression plasmid pHAAD128G.";
                                                                                MEDIINE=88068641; PubMed=2825199;
Kishi H., Mukai T., Hirono A., Fujii H., Miwa S., Hori K.
"Human aldolase A deficiency associated with a hemolytic
thermolabile aldolase due to a single base mutation.";
proc Natl. Acad. Sci. U.S.A. 84:8623-8627(1987).
                                                                                                                                                                         X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).
MEDLLNE=99156067; PubMed=10048322;
Dalby A., Dauter Z., Littlechild J.A.;
Crystal structure of human muscle aldolase c
1,6-bisphosphate: mechanistic implications.";
Protein Sci. 8:291-297(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=88046782; PubMed=3674018;
Tolan D.R., Niclas J., Bruce B.D., Lebo
"Evolutionary implications of the human
pseudogene chromosome locations.";
Am. J. Hum. Genet. 41:907-924(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Freemont P.S., Dunbar B., Foth
"The complete amino acid seque:
bisphosphate aldolase.";
Biochem. J. 249:779-788(1988).
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Mukai T., Arai Y., Yatsuki H., Joh
"An additional promoter functions i
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MEDLINE=90242948; PubMed=2335208;
Gamblin S.J., Cooper B., Millar J.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Waire P., Gautron S., Hakim V., Grey "Characterization of three optional human aldolase A gene";
J. Mol. Biol. 197:425-438(1987).
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                                                                                                                                 MEDLINE=88068641; PubMed=2825199;
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Freemont P.S., Dunbar B., Fothergill L.A.;
"Human skeletal-muscle aldolase: N-terminal sequen
CNBr- and o-lodosobenzoic acid-cleavage fragments.
Trih. Blochem. Blophys. 228:342-352(1984).
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[9]
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                                                                                                                                                                                                                                                                                                                                               ll structure of human
262:282-286(1990).
                                                                                                                                                                                                                                                           Davies G.J., Grimes J.M., Jackson A., Watson H.C.; specificity of human aldolases."; 219:573-576(1991).
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PubMed=3441006;
S., Hakim V., Gregori
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nbar B., Fothergill-Gilmore L.A.;

no acid sequence of human skeletal-muscle
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aldolase-A,
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EMBL; X05236; CAA28861.1; -.
EMBL; M11560; AAA51590.1; -.
EMBL; M1560; CAA2054.1; -.
EMBL; X12447; CAA30979.1; ALT :
EMBL; M21190; AAA51697.1; -.
PIR; S14084; ADHUA.
PDB; 1ALD; 15-APR-92.
PDB; 2ALD; 02-APR-99.
PDB; 4ALD; 02-APR-99.
PDB; 4ALD;
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BINDING 146
BINDING 229
ACT_SITE 363
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GO; GO:000432; F:fructose-bisphosphate aldolase activity;
GO; GO:0006000; P:fructose metabolism; TAS.
GO; GO:0006096; P:glycolysis; TAS.
GO; GO:0006941; P:striated muscle contraction; TAS.
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-!- CATALYTIC ACTIVITY: D-fructose 1,6-bisphosphate = gphosphate + D-glyceraldehyde 3-phosphate.

-!- PATHMY: Glycolysis; sixth step.

-!- SUBUNIT: Homotetramer.

-!- DISEASE: Defects in ALDOA are a cause of hemolytic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR000741; Aldolase_I.
Pfam; PF00274; glycolytic_enzy; 1.
ProDom; PD001128; Aldolase_I; 1.
PROSITE; PS00158; ALDOLASE_CLASS_I; 1.
Lyase; Schiff base; Glycolysis; Multigene
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SIMILARITY: Belongs to class I fructose-bisphosphate aldolase
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  128
  ALT_SEQ.
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C-1-PHOSPHATE GROUP OF THE SUBSTRATE.
SCHIFF-BASE WITH DIHYDROXYACETONE-P.
ESSENTIAL FOR ENHANCED ACTIVITY OF THE
ENZYME TOWARD FRUCTOSE 1,6-BISPHOSPHATE
AS COMPARED WITH FRUCTOSE 1-PHOSPHATE
D -> G (in hemolytic anemia;
thermolabile).
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RY MEDLINE=88192445; PubMed=3009179;

A Paollella G., Buono P., Mancini P., Izzo P., Salvatore F.;

RY "Structure and expression of mouse aldolase genes. Brain-specific related to aldolase A.";

Paul J., Blochem. 156:229-235(1986)

C -:- CATALYTIC ACTIVITY: D-fructose 1,6-bisphosphate = glycerone phosphate + D-glyceraldehyde 3-phosphate.

C -:- PATHWAY: Glycolysis; sixth step.

C -:- SUBUNIT: Homotetramer:

C -:- SUBUNIT: Homotetramer:

C -!- MISCELLANDOUS: In vertebrates, three forms of this ubiquitous of glycolytic enzyme are found, aldolase A in muscle, aldolase B in color of the color of 
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                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 1-265 AND 294-363 FROM N.A. MEDLINE=90307699; PubMed=2365699; Stauffer J.K., Colbert M.C., Clejek-Baez "Nonconservative utilization of aldolase J. Biol. Chem. 265:11773-11782(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-88096598; PubMed-3697100;
Mestek A., Stauffer J., Tolan D.R., Ciej
"Sequence of a mouse brain aldolase A cD
Nucleic Acids Res. 15:10595-10595(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. STRAIN=129;
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Mammalia; Eutheria;
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ALDOA OR ALDO1.
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Rodentia;
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Sciurognathi; Muridae;
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A cDNA.";
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A alternative
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EMBL; J05517; AAA37210.2; -.
EMBL; Y00516; CAA68571.1; -.
PIR; S06323; ADMSA.
HSSP; P00883; 1ADO.
SWISS-2DPAGE; P05064; MOUSE.
                                                                                                          MEDLINE=74094688; PubM
Lai C.-Y., Nakai N., C
"Amino acid sequence o
the active center.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AlfM NAULA
POORB3; Q28671;
21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence up
15-SEP-2003 (Rel. 42, Last annotation
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                                                                                                                                                                                                                                    SEQUENCE FROM N.A.

MEDILINE=84111505; PubMed=6546378;
TOlan D.R., Amsden A.B., Putney S.

"The complete nucleotide sequence
messenger RNA.";
J. Biol. Chem. 259:1127-1131(1984)
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                                                                                                                                                                                                                                                                                                                                                                              Mammalia; Eutheria;
NCBI_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota;
Mammalia;
                        SEQUENCE OF 1-164.
MEDLINE=75145171;
                                                                   Science 183:1204-1206(1974).
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oryctolagus cuniculus (Rabbit).
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m; PD001128; Aldolase_I; 1.
TE; PS00158; ALDOLASE_CLASS_I; 1.
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    PubMed=1122141;
., Lai C.-Y.;
                                                                                                                                                                         PubMed=4812352;
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C-1-PHOSPHATE GROUP OF THE SUBSTRATE.
SCHIFF-BASE WITH DIHYDOXXACETONE-P.
ESSENTIAL FOR ENHANCED ACTIVITY OF THE
ENZYME TOWARD FRUCTOSE 1,6-BISHOSPHATE.
AS COMPARED WITH FRUCTOSE 1-PHOSPHATE.
AS COMPARED WITH FRUCTOSE 1-PHOSPHATE.
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Mismatches
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                                                                                                                                   muscle
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                                                                                                                                aldolase
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Blom N., Sygusch J.,

"Product binding and role of the C-terminal region in c

percetose 1,6-bisphosphate aldolase.";

Nat. Struct. Biol. 4:36-39(1997).

-I. CAPALYTIC ACTIVITY: D-fructose 1,6-bisphosphate = g

phosphate + D-glyceraldehyde 3-phosphate.

-I. PATHWAY: Glycolysis; sixth step.

-I. PATHWAY: Glycolysis; sixth step.

-I. SUBUNIT: TETRAMER OF NEARLY IDENTICAL CHAINS, ALPHA

DIFFER AT ONLY 1 POSITION. N-360 IN THE ALPHA CHAIN.

TO D-360 IN THE BETA CHAIN.

-I. MISCELLANEOUS: In vertebrates, three forms of this

glycolytic enzyme are found, aldolase A in muscle,

liver and aldolase C in brain.

-I. SIMILARITY: Belongs to class I fructose-bisphosphat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=74163196; PubMed=4857186;
Hartman F.C., Welch M.H.;
"Identification of the histidyl residue of rabbit
alkylated by N-bromoacetylethanolamine phosphate.'
Biochem. Biophys. Res. Commun. 57:85-92(1974).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Studies on the structure o tryptic peptides; sequence terminal BrCN peptide."; Arch. Biochem. Biophys. 166
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                                                                                                                                                                                                                                                                                                                                         X-RAY CRYSTALLOGRAPHY (1
MEDLINE=97143309; PubMed
                                                                                                                                                                                                                                                                                                                                                                                        SUBSTRATE-BINDING SITE.

MEDLLNE=80046697; PubMed=499203;

Patthy L., Varadi A., Thesz J., Kovacs K.;

Patthy L., Varadi A., Thesz J., Kovacs K.;

"Identification of the C-1-phosphate-binding arginine residue of 
"rabbit-muscle aldolase. Isolation of 1,2-cyclohexanedione-labeled 
peptide by chemisorption ohtomatography.";

Eur. J. Biochem. 99:309-313(1979).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=76190154; PubMed=5453;
Hartman F.C., Brown J.P.;
"Affinity labeling of a previously
in class I fructose bisphosphate al
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nature
[7]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 37-55 AND 349-363 FROM MEDLINE=83167564; PubMed=6687628;
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MEDLINE=75145172; Pu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Benfield P.A., Forcina B.G., Gibbons I., Perham R.N.;
"Extended amino acid sequences around the active-site lysine
of class-I fructose 1,6-bisphosphate aldolases from rabbit mu
sturgeon muscle, trout muscle and ox liver.";
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MEDLINE=80109133; Pu
Benfield P.A., Forci
                                                                               <del>-</del>
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                                                            WWW="http://www.worthington-biochem.com/manual/A/ALD.html".
                                                                               DATABASE: NAME=Worthington
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e 302:718-721(1983).
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lem. Biophys. 166:358-368(1975).
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PubMed=8989320;
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PubMed=1122142;
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e of 164 amino acid residues
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EMBL; K02300; AAA31156.1; -.

REMBL; V00876; CAA24245.1; -.

REMBL; V00877; CAA24245.1; -.

REMBL; V00877; CAA24246.1; -.

REMBL; V00877; CAA2424444.1; CAA24.1; CAA24.1;

REMBL; V00877; CAA2424444.1;

REMBL; V00877; CAA2424444.1;

REMBL; V00877; CAA242444.1;

REMBL; V00877; CAA2424444.1;

REMBL; V00877; CAA2426.1;

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ESSENTIAL FOR CLEAVAGE OF THE SUBSTRATE
TO GIYCERALDEHYDE 3-PHOSPHATE.

ESSENTIAL FOR CLEAVAGE OF THE SUBSTRATE
TO GIYCERALDEHYDE 3-PHOSPHATE.

ESSENTIAL FOR CLEAVAGE OF THE SUBSTRATE
TO GIYCERALDEHYDE 3-PHOSPHATE AND
DIHYDROXYACETONE PHOSPHATE.
C-1-PHOSPHATE GROUP OF THE SUBSTRATE,
ALKYLATION INACTIVATES THE ENZYME;
SCHIFT-BASE WIT DIHYDROXYACETONE-P.
ALKYLATION INACTIVATES THE ENZYME;
ESSENTIAL FOR THE SUBSEQUENT HYDROLYSIS
OF THE DIHYDROXYACETONE SCHIFF BASE
ESSENTIAL FOR ENHANCED ACTIVITY OF THE
ENZYME TOWARD FRUCTOSE 1,6-BISPHOSPHATE
AS COMPARED WITH FRUCTOSE 1,6-BISPHOSPHATE
AS COMPARED WITH FRUCTOSE 1,5-BISPHOSPHATE
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MEDLINE=86083188; PubMed=2416636;

MEDLINE=86083188; PubMed=2416636;

Joh K., Mukai T., Yatsuki H., Hori K.;

"Rat aldolase A messenger RNA: the nucleotide sequence and mRNA species with different 5'-terminal regions.";

Gene 39:17-24(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=86140113; PubMed=3753977; Mukai T., Joh K., Arai Y., Yatsuki H., Hori "Tissue-specific expression of rat aldolase species differing only in the 5'-terminal se J. Biol. Chem. 261:3347-3354(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALFA_RAT STANDARD; PRT; 363 AA. P05065; 13-AUG-1987 (Rel. 05, Created) 13-AUG-1987 (Rel. 05, Last sequence update) 28-FEB-2003 (Rel. 41, Last annotation update) Fructose-bisphosphate aldolase A (EC 4.1.2.13)
 This SWISS-PROT entry is copyright. It is produced between the Swiss Institute of Bioinformatics and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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                                                                                                         of this ubiquitous muscle, aldolase B
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PIR; A24532; ADRTA.

R HSSP; P00883; IADO:
R InterPro; IPR000741; Aldolase_I.

Pfam; P700274; glycolytic_enzy; 1.

ProDom; PD001128; Aldolase_I; 1.

PROSITE; P500158; ALDOLASE_CLASS I; 1.

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Q91Y97; Q8K034; Q91W73;
15-SEP-2003 (Rel. 42, Created)
15-SEP-2003 (Rel. 42, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
15-SEP-2003 (Rel. 42, Last annotation update)
Fructose-bisphosphate aldolase B (EC 4.1.2.13)
SEQUENCE FROM N.A.

STRAIN=FVB/N; TISSUE=Colon, Kidney, and Liver;

MEDLINE=2388257; PubMed=12477932;

MEDLINE=2388257; PubMed=12477932;

Strausberg R.D., Feingold E.A., Grouse L.H., Derge J.G., Schuler G.D.,

Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
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                                                                                                                                                                                                             STRAIN=129/Sv;
Funari V.A., Tolan D.R.;
"Mouse aldolase B (aldo2) genomic sequence of the
including first poly A site and signals.";
Submitted (JUN-2001) to the EMBL/GenBank/DD3J data
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOUSE
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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M14420; AAA40715.1; -.

X04261; CAA27815.1; JOINED.

X04263; CAA27815.1; JOINED.

X04264; CAA27815.1; JOINED.

X04264; CAA27815.1; JOINED.
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Rodentia;
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C-1-PHOSPHATE GROUP OF THE SUBSTRATE.
C-1-PHOSPHATE GROUP OF THE SUBSTRATE.
SCHIFF-BASE WITH DIHYDROXYACETONE-P.
ESSENTIAL FOR ENHANCED ACTIVITY OF THE
ENZYME TOWARD FRUCTOSE 1,6-BISPHOSPHATE
AS COMPARED WITH FRUCTOSE 1-PHOSPHATE.
AS COMPARED WITH FRUCTOSE 1-PHOSPHATE.
F -> S (IN REF. 2).
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M4: 48A0468B9E3B9DB8 CRC64;
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RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W. RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A. RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., RA Rodriguez A.C., Grimwood J., Schmurz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A., RT "Generation and initial analysis of more than 15,000 full-length huma and mouse cDNA sequences.", Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).

RT proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).

C. -!- CATALYTIC ACTIVITY: D-fructose 1,6-Disphosphate = glycerone phosphate + D-glyceraldehyde 3-phosphate.

C. -!- SUBUNIT! Homotetramer (By similarity).

C. -!- WISCELLANBOUS: In vertebrates, three forms of this ubiquitous glycolytic enzyme are found, aldolase A in muscle, aldolase B in C. SIMILARITY: Belongs to class I fructose-bisphosphate aldolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a copyright the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@ibb-sib.ch).
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1: sp_archea:*
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3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_blant:*
10: sp_plant:*
11: sp_rodent:*
11: sp_rodent:*
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17: sp_archeap:*
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Gapop 10.0 , Gapext 0.5
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  GVAAXSSLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Copyright
                                                                                                                                                                                                                                                                                                                                sp_virus:*
sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
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                     Q81676 oryza sativ
Q2498 giardia lam
Q8sry6 encephalito
Q9cc58 mycobacteri
Q9cc58 mycobacteri
Q9s7b5 mycobacteri
Q91676 oryza sativ
Q516969 yersinia pe
Q916f1 pseudomonas
Q8uf26 agrobacteri
Q77540 oryctolagus
Q8sva3 encephalito
Q98g45 rhizobium 1
Q9n4s1 caenorhabdi
                                                                                                                                                                                                                   Description
Q9xec5 arabidopsis
Q9hkz8 thermoplasm
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Matches 7
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Q8L676;
Q8L676;
Q8L676;
Q1-CCT-2002 (TrEMBLrel. 2)
Q1-CCT-2002 (TrEMBLrel. 2)
Q1-MAR-2003 (TrEMBLR)
Q2-MAR-2003 (TrE
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STRAIN-CV. Nippombare;
Buell C.R.; Yuan Q., Ouyang S., Liu J., Gansberger K., Kim M.M.,
Buell C.R.; Yuan Q., Ouyang S., Liu J., Krol M.I., Jarrahi B.B.,
Overton II L.L., Bera J.J., Tsitrin T., Krol M.I., Jarrahi B.B.,
Jin S.S., Koo H., Ziamann V., Hsiao J., Blunt S., Vanaken S.S.,
Utterback T.T., Feldblyum T.V., Yang Q.O., Haas B.J., Suh B.B.,
Peterson J.J., Quackenbush J., White O., Salzberg S.L., Fraser C.M.,
"Oryza sativa chromosome 10 BAC OSJNBa0011L09 genomic sequence.",
"Oryza sativa chromosome 10 BAC OSJNBa0011L09 genomic sequence.",
"Oryza sativa chromosome 10 BAC OSJNBa0011L09 databases."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Oryza sativa (japonica cultivar-group).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
NCBI_TaxID=39947;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AC092388; AAM22720.1;
Gramene; Q8L676; -.
InterPro; IPR004843; M-ppesi
                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR004843; M-ppestrase.
Pf6am; PF00149; Metallophos; 1.
Hypothetical protein.
SEQUENCE 377 AA; 40656 MW; C1
239 GIAARSSLF 247
                                                                                                        1 GVAAXSSLF
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7; Conserv
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Pred. No. 13;
1; Mismatches
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Best Local
MEDIINE=21576510; PubMed=11719806; Katinka M.D., Duprat S., Cornillot E., Mete Prensier G., Barbe V., Peyretaillade E., Br Delbac F., El Alaoui H., Peyret P., Saurin Weissenbach J., Vivares C.P.; "Genome sequence and gene compaction of the Encephalitozoon cuniculi."; Nature 414:450-453 (2001).

EMBL; AL590445; CAD26577.1; -.
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InterPro; IPR005479; CPase_L_D2.
InterPro; IPR002869; POR.
InterPro; IPR002880; POR_N.
Pfam; PF00037; fer4; 2.
Pfam; PF01558; POR, 1.
Pfam; PF01855; POR, N; 1.
Pfam; PF01855; POR_N; 1.
PROSITE; PS00198; 4FE4S_FERREDOXIN; 2.
PROSITE; PS001087; CPSASE_2; 1.
4Fe-48; Iron; Iron-sulfur.
SEQUENCE 1253 AA; 138928 MW; FF3B748
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=94170792; PubMed=8125101;
MEDLINE=94170792; PubMed=8125101;
Townson S.M., Hanson G.R., Upcroft J.A.,
Townson S.M., Hanson G.R., Upcroft J.A.,
"A purified ferredoxin from Giardia duode
"A purified ferredoxin from Giardia duode
"A purified ferredoxin 120:43-446 (1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2002
01-JUN-2002
01-MAR-2003
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01-NOV-1996 (TrEMBLrel. 01, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequented)
01-MAR-2003 (TrEMBLrel. 23, Last annotated)
Pyruvate:ferredoxin oxidoreductase.
Giardia lambila (Giardia intestinalis)
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NCBI_TaxID=5741;
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                                                                                                                                                                                                                SEQUENCE FROM N.A. STRAIN=GB-M1;
                                                                                                                                                                                                                                                                                 Genoscope;
Submitted (APR-2001)
                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Fungi;
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7; Conserve
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(TrEMBLrel. 23, Last annotation updat
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77.8%;
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19, Last sequence update)
23, Last annotation update)
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                                                                               Saurin W., Gouv
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Matches
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Q9CC58;
01-JUN-2001
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Cole S.T., Eiglmeier K., Parkhill J., James K.D., Thomson N.R.,
Wheeler P.R., Honore N., Garnier T., Churcher C., Harris D.,
Mingall K., Basham D., Brown D., Chillingworth T., Connor R.,
Mungall K., Devlin K., Duthoy S., Feltwell T., Fraser A., Hamlin N.
Davies R.M., Devlin K., Duthoy S., Feltwell T., Fraser A., Hamlin N.
Holroyd S., Hornsby T., Jagels K., Lacroix C., Maclean J., Moule S.,
Murphy L., Oliver K., Quail M.A., Rajandream M.A., Rutherford K.M.,
Rutter S., Seeger K., Simmon S., Simmonds M., Skelton J., Squares R.,
Squares S., Stevens K., Taylor K., Whitehead S., Woodward J.R.,
Squares S., Stevens K., Taylor K., Whitehead S., Woodward J.R.,
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Pfam; PF01490; Aa_trans; 1.
Hypothetical protein.
SEQUENCE 385 AA; 43606 MW; 0EEB01
SEQUENCE FROM N.A. STRAIN=H37RV; MEDLINE=98295987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Leproma; ML1255; -
Hypothetical prote:
SEQUENCE 163 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Massive gene decay in the leprosy Nature 409:1007-1011(2001). EMBL; AL583921; CAC31636.1; -
                                                                                                                                                                                                                          Mycobacterium tuberculosis.
Bacteria, Actinobacteria, A
                                                                                                                                                                                          Corynebacterineae; Mycobacteriaceae; Mycobacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mycobacterium leprae.
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                                                                                                                                              NCBI_TaxID=1773;
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Corynebacterineae; Mycobacteriaceae; Mycobacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 7; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GVAAXSSLF
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L (Tremblrel. 17, 1
L (Tremblrel. 18, 1
al protein ML1255.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11 protein; Complete
163 AA; 16842 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
       PubMed=9634230;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         83.8%;
                                                                                                                                                                                                                              Actinobacteridae; Actinomycetales;
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 31; DB Pred. No. 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 32;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. 27;
); Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     proteome.
F26A1A2C04E3FD2E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0EEB01706C82ECAE CRC64;
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(γ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RA Cole S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris D. RA Gordon S.V., Eiglmeier K., Gas S., Barry C.E. III, Tekaia F., RA Badcock K., Basham D., Brown D., Chillingworth T., Connor R., RA Davies R., Devlin K., Feltwell T., Gentles S., Hamlin N., Holroyd S., RA Hornsby T., Jagels K., Krogh A., McLean J., Moule S., Murphy L., RA Oliver S., Osborne J., Quail M.A., Rajandream M.A., Rogers J., RA Rutter S., Seeger K., Skelton S., Squares R., Sulston J.E., Taylor K., Whitehead S., Barrell B.G.; "Deciphering the biology of Mycobacterium tuberculosis from the Complete genome sequence."; "I Nature 393:537-544(1998)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 7
           Query Match
Best Local S
Matches 7
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Hypothetical 17.4 kDa protein.
MLCB1610.16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9X7B5
Q9X7B5;
01-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mycobacterium leprae.
Mycobacteria; Actinobacteridae; Actinomycetales;
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
James K.D., Parkhill J.,
Submitted (MAR-1999) to t
                                                                                                                                                                  of Mycobacterium leprae.";
Mol. Microbiol. 7:197-206(1993).
EMBL; AL049913; CAB43162.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    laboratory strains.";
Submitted (APR-2001) to the EMEL; AL021246; CAAL6045.1; ---
EMBL; AE007091; AAK46843.1; ---
                                                                                                                  Hypothetical protein.
SEQUENCE 169 AA; 17360 MW;
                                                                                                                                                                                                                                               MEDLINE=93188700; PubMed=8446027;
Eiglmeier K., Honore N., Woods S.A.,
"Use of an ordered cosmid library to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Seeger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=1769;
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STRAIN-CDC 1551 / Oshkosh;
Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O.,
Fleischmann R.D., Alland D., Eisen J.A., Haft D., Hickey E.,
Peterson J., DeBoy R., Dodson R., Gwinn M.L., Haft D., Hickey E.,
Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzberg S.L.,
Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzberg S.L.,
Delcher A., Utterback T., Weidman J., Khouri H., Gill J., Mikula A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIGR; MT2543;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bishai W
                                                                                                                                                                                                                                                                                                                                  EQUENCE FROM N.A.
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           Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 77.8
7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               J., Harris I
(MAY-1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  :; Rv2468c; -.
il protein; Complete proteome.
167 AA; 17288 MW; F600B6FCA54E4BB4
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           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
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م
                               83.8%;
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                                                                                                                                                                                                                                                                                                                                                                                   Barrell B.G., Rajandream the EMBL/GenBank/DDBJ data
     Score 31; DB:
Pred. No. 28;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 31; DB Pred. No. 28; 0; Mismatches
           0
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                                                                                                                  2FB50C9E845D0B89
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deduce t
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                                                           DB 2;
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                                                                                                                                                                                                                                                  n B.,
                                                                                                                                                                                                                                                                                                                                                                                   lream M.A.;
databases.
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        2:
                                                           Length 169;
                                                                                                                                                                                                                                               genomic
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                                                                                                                  CRC64
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           Indels
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                                                                                                                                                                                                                                                  .T.;
organization
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q56969;
Q56969;
Q1-NOV-1996
Q1-NOV-1996
Q1-MAR-2003
                                                                                                                                      Filippov A.A., Olein
Smirnov G.B.;
"Sequencing of two Y
Contrib Microbiol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9LE76;
Q9LE76;
01-OCT-2000
01-OCT-2000
01-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gramene;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (JAN-2000) to the EMBL/GenBank/DDBJ EMBL; AP001081; BAA90367.1; -. EMBL; AP001073; BAA89586.1; -. Gramene; Q9LE76; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hypothetical protein.
Oryza sativa (Rice).
Gukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, Liliopsida, Poales, Poaceae,
Ehrhartoideae, Oryzeae, Oryza.
     Filippov A. Submitted (
                                                                                                                                                                                                                                                                                                                    Bacteria, Proteobacteria,
Enterobacteriaceae, Yersin
NCBI - TaxID=632;
                                                           STRAIN=358;
                                                                                  SEQUENCE FROM N
                                                                                                                                                                                                                                            SEQUENCE OF 142-236
STRAIN=358;
                                                                                                                                                                                                                                                                                                                                                                                                          Plasmid Lcr.
                                                                                                                                                                                                                                                                                                                                                                                                                                      Yersinia pestis.
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"Oryza sativa nipponbare(GA3) genomic
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(STRAINATCC 15692 / PAO1;

(STRAINATCC 15692 / PAO1;

(STRAINATCC 15692 / PAO1;

(MEDLINE=2043737, PubMed=10984043;

X MEDLINE=2043737, PubMed=10984043;

X MEDLINE=20437337, PubMed=10984043;

X MEDLINE=2043737, PubMed=10984043;

X Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P.,

A Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M.,

A Garber R.L., Goltry L., Tolentino B., Westbrock-Wadman S., Yuan Y.,

A Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,

X Bridy L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,

X Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,

X Bridy L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,

X Bridy L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,

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X Bridy L.L., Coulter S.N., Folger K.R., M., Coulter S.N., Larbig K., Lim R.M.,

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SEQUENCE FROM N.A.
STRAIN=358;
MEDLINE=92250432; F
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Q8UFZ6;
01-JUN-2002
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"A novel protein, Loro, involved in the low-calcium response of the control of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF01925; DUF81; 1.
Hypothetical protein; Complete
SEQUENCE 267 AA; 27809 MW;
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DA435AF6A616EBC1 CRC64;
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3E12AFB692E1373F
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Best Local S
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PRELIMINARY;

PRT;

565 AA.

077540;

01-NOV-1998 (TrEMBLrel. 08, Created)

01-NOV-1998 (TrEMBLrel. 08, Last sequence update)

01-MAR-2002 (TrEMBLrel. 20, Last annotation update)

Liver carboxylesterase (EC 3.1.1.1).

Liver carboxylesterase (EC 3.1.1.1).

Oryctolagus cuniculus (Rabbit).

Dukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eut

Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
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MEDLINB=21608550; PubMed=11743193;

Wood D.W., Setubal J.C., Kaul R., Monks D.E., Kitajima J.P.,

Wood D.W., Setubal J.C., Kaul R., Monks D.E., Almeida N.F. Jr., Woo L.

Chen Y., Setubal J.C., Ken L., Wood G.E., Almeida N.F. Jr., Woo L.

Chen Y., Paulisen I.T., Eisen J.A., Karp P.D., Bovee D. Sr.,

Chapman P., Clendenning J., Deatherage G., Gillet W., Grant C.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

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Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., McClelland E., Palmieri A.,

Kutyavin T., Levy R., Li M.-J., McClelland E., McCle
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Interpro; IPXVVVIII.

Pfam; PF00892; DUF6; 1.

PROSITE; PS00095; C5 MTASE 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cielo C., Slater S.,
"Genome sequence of the plant pathogen and biotechnology agent
Agrobacterium tumefaciens C58.";
Science 294:2323-2328(2001)
EMBL; AE009087; AA142257.1; -.
EMBL; AE009087; AAK47045.1; -.
InterPro; IPR001525; C5 DNA meth.
InterPro; IPR001520; DUF6.
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Goodner B., Hinkle G., Gattung S., Miller N., Blanchard M.,
Qurollo B., Goldman B.S., Cao Y., Askenazi M., Halling C., Mullin L.
Houmiel K., Gordon J., Vaudin M., Iartchouk O., Epp A., Liu F.,
Wollam C., Allinger M., Doughty D., Scott C., Lappas C., Markelz B.,
Flanagan C., Crowell C., Gurson J., Lomo C., Sear C., Strub G.,
Cielo C., Slater S.;
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ATUl248 OR AGR_C_2304.
AGrobacterium tumefaciens (strain C58 / ATCC 3397) Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiaceae; Rhizobium.
TISSUE-Liver;
MEDLINE=98297515; PubMed=9635592;
MEDLINE=98297515; PubMed=9635592;
Potter P.M., Pawlik C.A., Morton C.L., Naeve C.W.,
"Isolation and partial characterization of a cDNA-
liver carboxylesterase that activates the prodrug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C58. "
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87.5%;
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RESULT 13
Q98G45
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AC Q98G4
DT 01-OC
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DE Iron-A
GN MLR34
OS Rhizo
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-!- SIMILARITY: BELONGS TO THE TYPE-B CARB
EMBL; AF036930; AAC39258.1; -.
HSSP; P21836; IMAH.
InterPro; IPR002018; CarbesteraseB.
InterPro; IPR002018; Car estrs_site.
IfterPro; IPR000379; Ser estrs_site.
Pfam; PF00135; COesterase; 1.
PROSITE; PS00122; CARBOXYLESTERASE B 1; 1.
PROSITE; PS00941; CARBOXYLESTERASE B 2; 1.
                                                           Q98G45;
Q98G45;
01-OCT-2001
01-OCT-2001
01-MAR-2003
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SEQUENCE
  Rhizobium
                       Iron-binding periplasmic protein, SfuA protein MLR3495.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical SEQUENCE 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-21576510; PubMed=11719806;
Katihka M.D., Duprat S., Cornillot E., Metenier G., Thon
Prensier G., Barbe V., Peyretaillade E., Brottier P., Wi
Delbac F., El Alaoui H., Peyret P., Saurin W., Gouy M.,
Weissenbach J., Vivares C.P.;
"Genome sequence and gene compaction of the eukaryote pa
Encephalitozoon cuniculi.";
Nature 414:50-453(2001).
Nature 414:50-453(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Encephalitozoon cuniculi.
Eukaryota; Fungi; Microsp
NCBI TaxID=6035;
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STRAIN=GB-M1;
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298 AA; 3
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                                                         18, Created)
18, Last sequence update)
23, Last annotation updat
                                                                                                                                                                                                                                                                                                                                           Score 29; DB
Pred. No. 1.5e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                  DB 5;
1.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 6; 1.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the eukaryote parasite
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                                       precursor.
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Best Local S
Matches 6
       Matches
                            Query Match
Best Local
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01-OCT-2000
01-OCT-2000
01-MAR-2003
                                                                                           "Direct Submission.";
Submitted (SEP-2001) to the EMBL/GenBank/DDBJ EMBL; AC006804; AAF60757.1; -.
Wormbep; YS3G8B.4; CE25430.
Hypothetical protein.
SEQUENCE 349 AA; 37676 MW; COE76887720CAOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=MAFF303099;
MEDLINE=21082930; PubMed=11214968;
MEDLINE=21082930; PubMed=11214968;
MEDLINE=1082930; FubMed=11214968;
Matanabe A., Tdesawa K., Ishikawa A., Kawashima K., Kimura T
Watanabe A., Tdesawa K., Ishikawa A., Kawashima K., Kimura T
Kishida Y., Kiyokawa C., Kohara M., Matsumoto M., Matsuno A.
Mochizuki Y., Nakayama S., Nakazaki N., Shimpo S., Sugimoto
Takeuchi C., Yamada M., Tabata S.;
Takeuchi C., Yamada M., Tabata S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hypothetical 37.7 Y53G8B.4.
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EMBL; AP003002; BAB50371.1; -.

InterPro; IPR006059; SBP_bac_1.

Pfam; PF01547; SBP_bac_1; 1.
                                                                                                                                                                                                                                Waterston R.;
                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. STRAIN-Bristol N2;
                                                                                                                                                                                                                                                                                                                       Latreille P.;
"The sequence of C.
Submitted (MAR-1999)
                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. STRAIN=Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Genome sequence of the nematode investigating biology. The C. elescience 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. STRAIN=Bristol N2;
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NCBI_TaxID=6239;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Complete genome structure of Mesorhizobium loti.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Phyllobacteriaceae; Mesorhizobium.
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    Similarity 6; Conserv
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(TrEMBirel. 15, Last sequence update)
(TrEMBirel. 23, Last annotation update)
137.7 kDa protein.
       Conservative
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, Nakayama S., Nakaz
, Nabata S., Nakaz
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66.7%;
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66.7%;
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EMBL/GenBank/DDBJ
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Pred. No. 1.7e
2; Mismatches
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T
                        Score
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                                                                                              C0E76887720CA0AB CRC64;
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       Mismatches
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1.7e+02;
.8e+02;
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GVAAXSSLF

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RESULT 15
Q9XEC
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Search completed: January 29, 2004, 14:56:46 Job time: 27.8676 secs
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Olyv1999 (TrembLrel 12, Created)

Ol-NOV-1999 (TrembLrel 12, Last sequence update)

Ol-OCT-2002 (TrembLrel 22, Last annotation update)

Hypothaetical 44.0 kDa protein.

T2606,8 OR AT4G04480.

Arabidopsis thaliana (Mouse-ear cress).

Enkaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;

eurosids II; Brassicales; Brassicaceae; Arabidopsis.

NOBI TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

EU Arabidopsis sequencing project;

Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.

EMBL; AF075243; AAD29760.1; -.

EMBL; AL161500; CAB77916.1; -.

Hypothetical protein.

SEQUENCE 398 AA; 43961 MW; 0077BE2298E94AD7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN-cv. Columbia;
Zhong J., Ma P., Parnell L.D., Chen C.-N., Chen E.Y.;
"Genomic sequence of Arabidopsis thaliana BAC T26N6, chromosome
19.3 CM.";
Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.

Zhong J., Ma P., Parnell L.D., Chen C.N., Chen E.Y., Mewes H.W.,
Lemcke K., Mayer K.F.X.;

Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
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289 GVSAVSSVF 297
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GLAVSSSLF 69
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/cgn2 6/ptcdata/1/iaa/5A_COMB.pep:*
/cgn2 6/ptcdata/1/iaa/5B_COMB.pep:*
/cgn2 6/ptcdata/1/iaa/6A_COMB.pep:*
/cgn2 6/ptcdata/1/iaa/PCTUS_COMB.pep:*
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                                                                             GenCore version (c) 1993 - 2004
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             US-09-339-511-3

US-09-107-532A-5861

US-09-107-532A-5861

US-09-264-737-1

US-09-264-737-2

US-09-264-737-2

US-09-264-737-2

US-09-264-737-2

US-08-481-476C-3

US-08-48-113B-57

US-08-477-48B-57

US-08-46-360-57

US-08-46-360-57

US-08-48-9-765-57

US-08-48-9-75-59

US-09-1136-389-57

US-09-1136-389-57

US-09-1136-389-57

US-09-1136-389-57

US-09-252-991A-28311

US-09-339-511-6

US-09-339-511-6

US-09-356-916-32

US-09-556-916-32

US-09-556-916-32

US-09-556-91A-28440
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Compugen Ltd
Sequence 6, Apphi
Sequence 5807, Ap
Sequence 28311, A
Sequence 2, Apphi
Sequence 6, Apphi
Sequence 30, Apph
Sequence 31, Apph
Sequence 32, Apph
Sequence 21955, A
Sequence 28440, A
Sequence 8, Apphi
Sequence 8, Apphi
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Sequence 2, Appli
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Sequence 31791, A
Sequence 5861, Ap
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Result No.

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45			42					37			34						
25	25	25	25	2) UI	25	25	25	26	26	26	26	26	26	26	26	26	26
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141	139	138	127	114	110	108	9	919	909	675	672	672	605	547	547	547	547
4.	W	w	4,	4	4.	44	4	4	4	4	4	4	4	4	щ	μ.	Н
8-352-6	US-09-422-869-14	US-09-422-869-16	98-452A-1	15-192A-3	07-532	US-09-199-637A-227	US-09-339-511-2	US-09-437-054A-17		US-09-252-991A-29161	US-09-556-916-28	56-916-2	-60-	9-347-878-	US-08-712-057-8	US-08-475-694-8	US-08-393-785-8
equence	ence 14,	e 16,	equence 1034,	equence 310	equence 4192, A	equence 227	equence 2, ,	equence 17,	equence 305	e 29	equence	e 26, App	equence 32	e 36	equence 8,	equence 8,	Sequence 8, Appli

ALIGNMENTS

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RESULT 2
US-09-252-991A-31791
(Sequence 31791, Application US/09252991A
; Sequence 31791, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
(APPLICANT: Marc J. Rubenfield et al.
(APPLICANT: Marc J. Rubenfield et al.
(APPLICANT: MORE J. RUBENFION: AUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
(TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
(FILE REFERENCE: 107196.136
(CURRENT APPLICATION NUMBER: US/09/252,991A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 3

LENGTH: 9

TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
FEATURE:
OTHER INFORMATION: Description of
OTHER INFORMATION: Description of
NAME/KEY: VARIANT
LOCATION: (5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: Xaa represents US-09-339-511-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
TILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR PILING DATE: 1998-06-24
NUMBER OF SED ID NOS: 8
NUMBER OF SED ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
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5. 6337385
                                                                                                                                                                                                                                                                                                                                                                                                                      h 94.6%; Score 35; DB 4; L Similarity 100.0%; Pred. No. 2.5e+05; 9; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Muir, Tom
Mayville, Patricia
No. 6337385ick, Ric
Beavis, Ronald
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of Artificial Sequence: Synthetic
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US-09-107-532A-5861
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; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-31791
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                                                                                                                                                                                                                         APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: 50/051571
FILING DATE: 50/051571
FILING DATE: 50/051571
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-5007
TELEPHONE: (781)893-8277
INFORMATION FOR SEQ ID NO: 5861:
SEQUENCE CHARACTERISTICS:
LENGTH: 347 amino acids
TYPE: amino acid
TYPE: amino acid
    Query Match
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GENERAL INFORMATION:
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PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 31791
LENGTH: 332
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PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                       NAME/KEY: misc feature LOCATION: (B) LOCATION 1...347 SEQUENCE DESCRIPTION: SEQ ID NO: 58
                                                                                                                                                   MOLECULE TYPE: protein HYPOTHETICAL: YES ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
COMPUTER: PC
                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
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ADDRESSEE: GENOME THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Lynn A Doucette-Stamm
TITLE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        284 GIAATSMLF 292
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: PC
OPERATING SYSTEM: <Unknown>
SOFTWARE: ASCII
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STATE: Massachusetts
                                                                                                                                                                                                             TOPOLOGY: linear
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                                                                                                                                     DRGANISM: Enterococcus faecium
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BER: US 60/074,788
  81.1%;
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    Score 30;
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Pred. No. 22;
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AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
    DB 4;
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Length 347;
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TITLE OF INVENTION: Engineering Plant Resistance to Pyridines via TITLE OF INVENTION: Expression of Esterase Enzymes; FILE REFERENCE: 38-21(10551) RLE3 Pyridine Tolerance; CURRENT APPLICATION NUMBER: US/09/264,737A, CURRENT FILLING DATE: 1999-03-09; EARLIER FILLING DATE: 1999-03-09; EARLIER FILLING DATE: 1998-03-10; NUMBER OF SEQ ID NOS: 11; SOFTWARE: Patentin Ver. 2.0; SEQ ID NO 2; LENGTH: 566; TYPE: PRT 1, ORGANISM: Rabbit US-09-264-737-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Fuff, Thomas G.

APPLICANT: Ruff, Thomas G.

ITITLE OF INVENTION: Engineering. Plant Resistance to Pyridines via TITLE OF INVENTION: Engineering. Plant Resistance to Pyridines Via TITLE OF INVENTION: Expression of Esterase Enzymes

FILE REFERENCE: 38-21(10551) RLE3 Pyridine Tolerance

CURRENT APPLICATION NUMBER: US/09/264,737A

CURRENT FILING DATE: 1998-03-09

EARLIER APPLICATION NUMBER: 60/077,377

EARLIER APPLICATION NUMBER: 60/077,377

EARLIER FILING DATE: 1998-03-10

NUMBER OF SEQ ID NOS: 11

SOFTWARE: PATENTIN Ver. 2.0

SEQ ID NO 1

LENGTH: S39
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; ORGANISM: Rabbit
US-09-264-737-1
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US-09-264-737-1
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Feng, Paul C.C.
APPLICANT: Ruff, Thomas G.
                                                                    Matches
                                                                                   Query Match
Best Local
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Best Local
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249 GVALLSSLF 257
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                              1 GVAAXSSLF
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                                                                                   81.1%;
77.8%;
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                                                                                     Score 30; DE
Pred. No. 41;
                                                                      Mismatches
                                                                                                    DB 3; Length 566;
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RESULT 6 US-09-339-511-1

Sequence 1,

Application US/09339511

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                                                                                                                      US-07-988-430-59
                                                                                                                                        RESULT 8
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                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn version 3.0
SEQ ID NO 3
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
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                                                                                                     Sequence 59,
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CURRENT FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEC ID NOS: 8
                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS
FILE REFERENCE: 63753/7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position of the information:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TILE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL TILE OF INVENTION: INTERFERENCE
                                                                                       tent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Artificial Sequence
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8; Conserv
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No. 6337385ick, Richard
Beavis, Ronald
                                                                                                     Application US/07988430
Better, Marc D.
Carroll, Stephen F.
Lane, Julie A.
                                                                                                                                                                                                                                                            Conservative
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                                                  Bernhard,
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                                                                                                                                                                                                                                                                         75.7%;
77.8%;
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                                                  Susan L.
                                                                                                                                                                                                                                                                           Score 28; Pred. No. 2
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Pred. No. 2.5e+05
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2.5e+05;
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TELEX: 25-3856
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                         GENERAL INFORMATION:
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PRIOR APPLICATION UNDER: US 07/901,707
PILLING DATE: 19-UUN-1992
PRIOR APPLICATION DATA:

PRIOR APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 04-NOV-1991
ATTORNEY/AGENT INFORMATION:
NAME: NO. 5416202and, Gret
REGISTRATION NUMBER: 35302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: peptide
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                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                      TITLE OF INVENTION: Immunoto:
TITLE OF INVENTION: Proteins
NUMBER OF SEQUENCES: 140
                                                                                                                                                                                          APPLICANT:
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IITLE OF INVENTION: Materials Comprising and Methods of
IITLE OF INVENTION: Preparation and Use for Ribosome-Inactivating Proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (312) 984-9740
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REFERENCE/DOCKET NUMBER:
MPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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ADDRESSEE: Bicknel
                                                                                                              ADDRESSEE:
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No. 5621083
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                                                               Illinois
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                                                                                             6300 Sears Tower,
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                                                                                                                                                                                                           Carroll, Stephen
                                                                                                                Marshall,
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                                                                                                                                                                                          Gary M.
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                                                                                             , O'Toole,
Tower, 233
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Pred. No.
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South Wacker Drive
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APPLICANT: Better, Marc D.

APPLICANT: Carroll, Stephen F.

APPLICANT: Studnika, Gary M.

APPLICANT: AVPENTION: Immunotoxi
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APPLICATION UNMBER: 08/064,691
FILING DATE: 12-MAY-1993
APPLICATION UNMBER: US 07/901,707
FILING DATE: 19-JUN-1992
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 07/787,567
FILING DATE: 04-NOV-1991
ATTORNEY/ACENT INFORMATION:
ANNEY ACENT INFORMATION:
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
FILING DATE: 18-APR-19
CLASSIFICATION: 530
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                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION NATA:
APPLICATION NUMBER: US/08/488,113B
FILING DATE: 07-UN-1995
CLASSIFICATION: 530
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH; 20 amino acids
TYPE; amino acid
                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/425,336
FILING DATE: 18-APR-1995
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/474-6300
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                                                                                                                                                                                                                                                                                                                                                                                         NITLE OF INVENTION: NUMBER OF SEQUENCES:
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Local Similarity 66.7%;
les 6; Conservative
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SYSTEM: PC-DOS/MS-DOS
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18-APR-1995
MBER: US 08/064,691
12-MAY-1993
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Pred. No. 2
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 20 amino acids
                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/477,484B
FILING DATE: 07-JUN-1995
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tent No.
                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08
FILING DATE: 18-APR-1995
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REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/707-8889
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US 07/988,430
                                                                           APPLICATION NUMBER: US 08/064,691
FILING DATE: 12-MAY-1993
PRICR APPLICATION DATA:
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ATTORNEY/AGENT INFORMATION:
                                                                                                                            FILING DATE: 18-APR-
PRIOR APPLICATION DATA:
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Local Similarity 66.7%;
nes 6; Conservative
                                               APPLICATION NUMBER: US 07/988,430 FILING DATE: 09-DEC-1992
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION:
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MBER: US 07/901,707
19-JUN-1992
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son Street, 34th floor
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Pred. No. 2
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Best Local :
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                      APPLICATION NUMBER: US 08/064,691
FILING DATE: 12-MAY:1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/988,430
FILING DATE: 09-DEC-1992
                                                                                                                                                                                                                                   CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FILING DATE: 12-MAY-1
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                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0'
FILING DATE: 04-NOV-1991
                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                         APPLICATION NUMBER: 1
                                                                                                                                                                                                                   FILING DATE: 12-MAY-1994
PRIOR APPLICATION DATA:
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               ATTORNEY/AGENT INFORMATION:
NAME: McNicholas, Janet |
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REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08 FILING DATE: 13-MAY-1996
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Similarity 66.7%;
6; Conservative
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500 West Madison Street, 34th floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Studnika,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Carroll, Stephen
                                                                                          NUMBER: US 07/901,707
19-JUN-1992
                                                                                                                                                                                                                                                                                                                                                                                                   Floppy disk
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gary M.
                                                          US 07/787,567
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Pred. No. 2.7;
0; Mismatches
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2.7;
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TELEX: 650 388-1248
INFORMATION FOR SEQ ID NO:
TELEX: 650 388-1248
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                            REGISTRATION NUMBER: 32,918
REFERENCE/DOCKET NUMBER: 111
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/707-8889
                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 04-NOV-1991
ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION: 530
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APPLICATION NUMBER: US/08/839,765
FILING DATE: 15-APR-1997
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APPLICATION NUMBER:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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Similarity 66.7%;
6; Conservative
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                                                                                                                                                                                        19-JUN-1992
                                                                                                                                                                                                                                      09-DEC-1992
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                                                                                                                                                        US 07/787,567
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Pred. No.
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APPLICATION NUMBER: 08/646,360
FILING DATE: 13.MAY-1996
APPLICATION NUMBER: PCT/US94/05348
FILING DATE: 12.MAY-1994
PRIOR APPLICATION DATA:
APPLICATION DATA: US 08/064,691
APPLICATION NUMBER: US 08/064,691
APPLICATION DATA: US 08/064,691
APPLICATION DATA: US 07/988,430
APPLICATION NUMBER: US 07/988,430
APPLICATION NUMBER: US 07/988,430
APPLICATION DATE: 09.DEC-1992
TELEX: 650 388-1248
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 20 aming acids
                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/787,567
FILING DATE: 04-NOV-1991
ATTORNEY/AGENT INFORMATION:
NAME: MCNICHOLAS, Janet M.
REGISTRATION NUMBER: 32,918
REFERENCE/DOCKET NUMBER: 200-70.P4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/136,389
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APPLICANT: Carroll, Stephen F.
APPLICANT: Studnika, Gary M.
TITLE OF INVENTION: Immunotoxi
TITLE OF INVENTION: Proteins
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LENGTH: 20 amino acids
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                                                                                                                                                                                                                                                                              FELECOMMUNICATION INFORMATION:
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Similarity 66.7%;
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312/707-9155
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Pred. No. 2.7;
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Best Local Similarity 66.
Matches 6; Conservative
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                                                                                                     TELEX: 650 388-1248
INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 08
FILING DATE: 13-MAY-19
APPLICATION NUMBER: PC
FILING DATE: 12-MAY-19
FILING DATE: 12-MAY-19
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA;
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MEDIUM TYPE: Floppy
COMPUTER: IBM PC com
                                                                                   SEQUENCE CHARACTERISTICS:
                                                                                                                                                     REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: 312/707-8889
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ATTORNEY/AGENT INFORMATION:
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PRIOR APPLICATION DATA:
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APPLICATION NUMBER: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: 18-AU
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STATE: Illinois
                                                                                                                                  TELEPHONE: 312/707-88
TELEFAX: 312/707-9155
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500 West Madison
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JUMBER: 08/646,360
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       Published Applications PA:*

1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*

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10: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*

13: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*

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18: /cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*

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Listing first 45 summaries
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Sequence 3, Appli
Sequence 9222, Ap
Sequence 155, App
Sequence 538, App
Sequence 2, Appli
Sequence 10, Appli
Sequence 10, Appl
Sequence 10, Appl
Sequence 10, Appl
Sequence 11, Appl
Sequence 12, Appl
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Score 35; DB 13; Ler Pred. No. 7e+05; 0; Mismatches 0; 1	US-10-032-950-3 US-10-032-950-3 PUBLICATION NO. US20020077453A1 GENERAL INFORMATION: APPLICANT: Mult, Tom APPLICANT: Mult, Tom APPLICANT: Beavis, Ronald APPLICANT: Beavis, Ronald APPLICANT: Beavis, Ronald APPLICANT: Ji, Guangyong FILE REFERENCE: 600-1-231N CURRENT APPLICATION INTERFERENCE FILE REFERENCE: 600-1-231N CURRENT APPLICATION NUMBER: US/10/032,950 CURRENT FILING DATE: 2001-12-27 PRIOR APPLICATION NUMBER: 60/090,402 PRIOR FILING DATE: 1998-06-24 NUMBER: PATENTING NOS: 8 SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 3 SEQ ID NO 3 INTERING NOS: 8 SOFTWARE: PATENTIFICIAL Sequence OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: peptide OTHER INFORMATION: peptide US-10-032-950-3	ALIGNMENTS	US-10-201-444-3 US-10-127-890-57 US-09-915-301-1462 US-10-201-444-6 US-10-201-444-6 US-10-205-219-67 US-10-10-15-761-12438 US-09-911-91-9-128 US-10-15-761-13178 US-10-15-761-13179 US-10-15-761-14910 US-10-15-761-18741
ngth 9; Indels 0; Gaps 0;	R BACTERIAL ce: Synthetic this position.		Sequence 3, Appli sequence 57, Appli sequence 6, Appli sequence 343, Appli sequence 11438, A sequence 12438, A sequence 12438, A sequence 10775, A sequence 10775, A sequence 12198, A sequence 12198, A sequence 13178, A sequence 13018, A sequence 13018, A sequence 13018, A sequence 10602, A sequence 4096, Appli sequence 7, Appli sequence 1, Appli sequence 5, Appli sequence 6, Appli sequen

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CURRENT APPLICATION NUMBER: US/10/156,761
CURRENT FILING DATE: 2002-05-29
PRIOR APPLICATION NUMBER: JP 2001-204089
PRIOR FILING DATE: 2001-05-30
PRIOR APPLICATION NUMBER: JP 2001-272697
PRIOR FILING DATE: 2001-08-02
NUMBER OF SEQ ID NOS: 15109
SEQ ID NO 9222
LENGTH: 391
RESULT 4
US-10-080-170-538
; Sequence 538, Application US/10080170
; Publication No. US20030129601A1
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APPLICANT: IKEDA, HARUO
APPLICANT: ISHIKAWA, JUN
APPLICANT: HORIKAWA, HIROSHI
APPLICANT: SHIBA, TADAYOSHI
APPLICANT: SAKAKI, YOSHIYUKI
APPLICANT: HATTORI, WASHIKA
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-262
FILE REFERENCE: 249-262
                                                                                                                                                                                                                                                                                     ; CRGANISM: Mycobacterium leprae US-10-080-170-155
                                                                                                                                                                                                                                                                                                                              APPLICATION COMPARATIVE MYCOBACTERIAL GENOMICS AS A TOOL FOR TITLE OF INVENTION: COMPARATIVE MYCOBACTERIAL GENOMICS AS A TOOL FOR TITLE OF INVENTION: TREATMENT OF MYCOBACTERIOSES
TITLE OF INVENTION: TREATMENT OF MYCOBACTERIOSES
FILE REFERENCE: 03495.0218
CURRENT FILING DATE: 2002-06-10
PRIOR APPLICATION NUMBER: 60/270,123
PRIOR APPLICATION NUMBER: 60/270,123
PRIOR APPLICATION NUMBER: 60/270,123
PRIOR TILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 652
SOPTWARE: PATEBULIN VET. 2.11
SEQ ID NO 155
LENGTH: 163
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APPLICANT: COLE, S.T.
APPLICANT: COLE, S.T.
ITILE OF INVENTION: COMPARATIVE MYCOBACTERIAL GENOMICS AS A TOOL FOR
ITILE OF INVENTION: DEENTIFYING TARGETS FOR THE DIAGNOSIS, PROPHYLAXIS OR
ITILE OF INVENTION: TREATMENT OF MYCOBACTERIOSES
ITILE OF INVENTION: TREATMENT OF MYCOBACTERIOSES
CURRENT APPLICATION NUMBER: US/10/080,170
CURRENT APPLICATION NUMBER: 60/270,123
PRIOR APPLICATION NUMBER: 60/270,123
PRIOR APPLICATION NUMBER: 60/270,123
SOFTWARE: Patentin Ver. 2.1
SOFTWARE: Patentin Ver. 2.1
SOFTWARE: Mycobacterium tuberculosis
TREATMENT MYCOBACTERIOR
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APPLICANT: Redinbo, Matthew
APPLICANT: Sompop, Bencharit
APPLICANT: Morton, Christopher
APPLICANT: Morton, Christopher
APPLICANT: Morton, CRYSTALLIZED MANMALIAN CARBOXYLESTERASE POLYPEPTIDE AND SCREEN
TITLE OF INVENTION: CRYSTALLIZED MANMALIAN CARBOXYLESTERASE POLYPEPTIDE AND SCREEN
TITLE OF INVENTION: CRYSTALLIZED MANMALIAN CARBOXYLESTERASE POLYPEPTIDE AND SCREEN
TITLE OF INVENTION: CRYSTALLIZED MANMALIAN CARBOXYLESTERASE POLYPEPTIDE AND SCREEN
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TITLE OF INVENTION: CRYSTALLIZED MANMALIAN CARBOXYLESTERASE POLYPEPTIDE AND SCREEN
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Matches
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APPLICANT: Muir, Tom
APPLICANT: Mayville, Patricia
APPLICANT: NC. US20020077453Alick, Richard
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
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APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  y Match 81.1%; Score 30; DB 12; Local Similarity 77.8%; Pred. No. 1.5e+02; Pres 7; Conservative 0; Mismatches 2
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7; Conservat
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; LOCATION: (5)
; OTHER INFORMATION: Xaa represents any amino acid at this position US-10-032-950-1
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US-09-966-545-10
Sequence 10, Application US/09966545
Patent No. US30020172999A1
GENERAL INFORMATION:
APPLICANT: Pernandes, Elma
APPLICANT: Vernet, Corine
APPLICANT: Shimkets, Richard A.
APPLICANT: Shimkets, Richard A.
TITLE OF INVENTION: No. US20020172999A1el Human Proteins and Polynucleotides Encoding
TITLE OF INVENTION: Them
TITLE REFERENCE: Cura-46 (15966-546)
CURRENT APPLICATION NUMBER: US/09/966,545
CURRENT APPLICATION NUMBER: US/09/966,545
CURRENT APPLICATION NUMBER: US/09/966,545
CURRENT APPLICATION NUMBER: US/09/966,545
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Patent No. US20020168716A1
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Best Local
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PRIOR APPLICATION NUMBER: 09/544,511
PRIOR FILING DATE: 000-04-06
NUMBER OF THE TOTAL OF T
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CURRENT APPLICATION NUMBER: US/09/9
CURRENT FILING DATE: 2001-09-26
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CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
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NAME(KEY: VARIANT
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ORGANISM: Homo sapiens
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"LE OF INVENTION: No. US20020168716Alel Human Proteins and Polynucleotides Encoding
"LE OF INVENTION: Them
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8; Conserv
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77.8%;
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Pred. No.
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Pred. No. 7e+05;
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; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 10
; LENGTH: 160
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-965-212-10
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CURRENT APPLICATION NUMBER: US/09/965,212
CURRENT FILING DATE: 2001-09-26
PRIOR APPLICATION NUMBER: US/09/544,511
PRIOR FILING DATE: 2000-04-06
PRIOR APPLICATION NUMBER: USSN 60/128,514
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 57
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APPLICANT: Fernandes, Elma
APPLICANT: Vernet, Corine
APPLICANT: Shimkets, Richard A.
APPLICANT: Shimkets, Richard A.
TITLE OF INVENTION: No. US20030003462A1el Human Proteins and Polynucleotides Encod
TITLE OF INVENTION: Them
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Best Local
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APPLICANT:
APPLICANT:
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APPLICANT: Shenoy, Suresh
APPLICANT: Casman, Stacie
APPLICANT: Rastelli, Luca
TITLE OF INVENTION: No. US20030129613A1e1 Human
FILE REFERENCE: 15966-546 CIP
CURRENT APPLICATION NUMBER: US/10/189,940
CURRENT FILING DATE: 2002-07-03
PRIOR APPLICATION NUMBER: 60/303,241
PRIOR FILING DATE: 2001-07-05
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TYPE: PRT
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Vernet, Corine
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Anderson, David
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Li, Li
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o. US20030129613A1
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77.8%;
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77.8%;
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Pred. No.
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Pred. No.
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                                                                                  Proteins and Polynucleotides Encod
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                                                                                                                RESULT 12
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; ORGANISM: Homo sapiens
US-09-966-546-12
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-189-940-10
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SEQ ID NO 12
LENGTH: 161
                                            Sequence 12, Application US/09966545
Patent No. US20020172999A1
GENERAL INFORMATION:
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Best Local
                                                                                                                                                                                                                              Matches
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                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 09/544,511
PRIOR FILING DATE: 2000-04-06
NUMBER OF SEQ ID NOS: 57
APPLICANT: Fernandes, Elma
APPLICANT: Vernet, Corine
APPLICANT: Shimkets, Rich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Fernandes, Elma
APPLICANT: Vernet, Corine
APPLICANT: Shimkets, Richard A.
TITLE OF INVENTION: No. US20020168716A1el Human Proteins and Polynucleotides Encoding
TITLE OF INVENTION: Them
                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/966,546
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PRIOR FILING DATE: 2001-09-26
PRIOR APPLICATION NUMBER: 09/966,545
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nes 7; Conserv
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 Richard A.
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Pred. No.
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Pred. No.
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APPLICANT: Fernandes, Elma
APPLICANT: Vernet, Corine
APPLICANT: Wernet, Corine
APPLICANT: Shimkets, Richard A.
TITLE OF INVENTION: No. US2003003462A1el Human Proteins and Pol;
TITLE OF INVENTION: Them
FILE REFERENCE: CURA-46 (15966-546)
CURRENT APPLICATION NUMBER: US/09/965,212
CURRENT APPLICATION NUMBER: US/09/964,511
CURRENT FILING DATE: 2001-09-26
PRIOR APPLICATION WUMBER: US/09/544,511
PRIOR FILING DATE: 1999-04-09
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 57
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Best Local S
Matches 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Ver.
SEQ ID NO 12
LENGTH: 161
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ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
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Local Similarity 77.88;
hes 7; Conservative
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Shenoy, Suresh
Casman, Stacie
Rastelli, Luca
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                                                                                    Shimkets, Richard
Anderson, David
Padigaru, Muralidhara
                                                                     Boldog, Ferenc
                                                                                                                                          Vernet, Corine
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To. US20030129613A1
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10. US20030003462A1
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77.8%; Pred. No. 64;
tive 0; Mismatches
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GENERAL INFORMATION:

APPLICANT: Cao, Yongwei

APPLICANT: Hinkle, Gregory J.

APPLICANT: Slater, Steven C.

APPLICANT: Slater, Steven C.

APPLICANT: Goldman, Barry S.

APPLICANT: Goldman, Barry S.

APPLICANT: Chen, Xianfeng

ITILE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF

ITILE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES

FILE REFERENCE: 38-10(52052)B

CURRENT APPLICATION NUMBER: US/10/369,493

CURRENT FILING DATE: 2003-02-28

PRIOR APPLICATION NUMBER: US 60/360,039

PRIOR APPLICATION NUMBER: US 60/360,039

PRIOR FILING DATE: 2002-02-21

NUMBER OF SEQ ID NOS: 47374

SEQ ID NO 1181

LENGTH: 1668
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; SOPTWARE: CuraseqList version 0.1
; SEQ ID NO 12
; LENGTH: 161
; TYPE: PRT
; ORGANIAN: Homo sapiens
US-10-189-940-12
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Search completed: January 29, 2004, 15:01:45
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US-10-369-493-1181
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PRIOR FILING DATE: 2002-04-01
PRIOR PELICATION NUMBER: 60/369,065
PRIOR APPLICATION NUMBER: 60/378,730
PRIOR FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: 60/378,730
PRIOR APPLICATION NUMBER: 60/378,730
PRIOR APPLICATION NUMBER: 09/965,212
PRIOR FILING DATE: 2001-09-26
PRIOR APPLICATION NUMBER: 09/966,545
PRIOR APPLICATION NUMBER: 09/966,546
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PRIOR APPLICATION NUMBER: 09/966,544
PRIOR APPLICATION NUMBER: 09/966,544
PRIOR APPLICATION NUMBER: 09/544,511
PRIOR APPLICATION NUMBER: 60/128,514
PRIOR APPLICATION NUMBER: 60/128,514
PRIOR APPLICATION NUMBER: 60/128,592
PRIOR APPLICATION NUMBER: 60/128,592
PRIOR FILING DATE: 2000-03-03
                                                                                                                                                                                                           Query Match 78.4%; Score 29; DB 12; Length 1668; Best Local Similarity 66.7%; Pred. No. 8.2e+02; Matches 6; Conservative 1; Mismatches 2; Indels
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1273 GIAAISRLF 1281
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Job time : 25.5441 secs

ABB07160 AAY67851 AAY67861 ABP53540

Staphylococcus aur Cyclic peptide SEC Peptide-mediated (S. aureus peptide

AgrD-autoinducing

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Result
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Perfect score:
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1: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*
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Gapop 10.0 , Gapext 0.5
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Maximum Match 100%
Listing first 45 summaries
   AVNAXSSLF 9
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Copyright (c) 1993 - 2004 Compugen Ltd
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ABP53543
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                             S. aureus peptide Cyclic peptide SEQ AgrD-autoinducing Staphylococcus aur Staphylococcus aur Protected peptide
                                                                                                      Description
 AgrD2
AgrD2
AgrD2
2 linear thioe
2 linear free
2 lactone cycl
Staphylococcus aureus infection; cyclic peptide; AgrD; agr response; virulence factor; treatment.
                                                                                                                                                                                                                                             S. aureus peptide #4 used for bacterial interference.
                                                  24-JUN-1999;
                                                                        29-DEC-1999.
                                                                                                                            Misc-difference
                                                                                                                                                                                         Staphylococcus aureus
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                               24-JUN-1998;
                                                                                             WO9967286-A2
                                                                                                                                                          Modified-site
 (UYRQ ) UNIV ROCKEFELLER.
(UYNY ) UNIV NEW YORK STATE
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                               98US-0103438
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/label= Unknown
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/note= "N-terminal residue forms bond with C-terminal residue to form a cyclic peptide"
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ALIGNMENTS

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Human sugar transp Human EST encoded Human cytokine rec Chlamydia pneumoni Streptomyces chole Streptomyces chole Cholesterol oxidas Cholesterol oxidas Cholesterol oxidas Cholesterol oxidas Cholesterol oxidas

Wild type choleste

AAW50899 AAW51005 AAW51005 AAW51059 AAW51059 AAW3159 AAW3323 AAW51059 AAW38323 AAW51059 AAW38323 AAW51059 AAW38323 AAW51059 AAW51059 ABB84631 AAB86113 AAG94533 AAG94533 AAG9534 AAG9533 AAG9533

peptide-mediated q S. aureus RN6607 a S. aureus RN6607 a S. aureus RN6607 A Human transport pr Arabidopsis thalia Arabidopsis thalia Arabidopsis thalia Arabidopsis thalia Arabidopsis thalia Novel human diagno Arabidopsis thalia Novel human diagno Arabidopsis thalia Arabidopsis thalia Arabidopsis thalia

Protected peptide AgrD2 lactam cycli Peptide-mediated q Pimaricin biosynth Transcription inhi AgrD2 thiololacton Peptide mediated q S. aureus RN6607 a S. aureus RN6607 A

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RESULT 2
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence represents a cyclic peptide derived from the Staphylococcus aureus AgrD peptide. The invention relates to AgrD derived peptides, a composition containing a peptide and a carrier and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
 Claim
                          New
                                                                                                                                                                        20-JUN-2002
                                                                                                                                                                                         US2002077453-A1
                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                           Synthetic
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                 New cyclic peptides, infections -
                                                                                     (NOVI/)
                                                                                                    (MUIR/)
                                                                                                                                      24-JUN-1998;
                                                                                                                                                       27-DEC-2001;
                                                                                                                                                                                                                                                                     Cyclic
                                                                                                                                                                                                                                                                                     Cyclic peptide
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                                                                                                                                                                                                                                                            agr response
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                                                          TW,
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NOVICK R I
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JI G.
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9; Conserv
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99US-0339511.
                                                                                                                                                                                                                                                                                    SEQ ID NO:4.
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18pp; English
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                        treating
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9.3e+05;
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                                                                                                                                                                         Disclosure;
                                                                                                                                                                                                                                                                                             WPI; 2002-170774/22
                                                                                                                                                                                                                                                                                                                                                                        (UYRQ )
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                                                                                                                                                                                                                               Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection in the state of the st
                                                                                                                                                                                                                                                      Novel
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The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of Staphylococcus aureus. It is an AgrD-autoinducing peptide, where AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of printlence factor and other extracellular proteins responsible for printlence factor and other extracellular peptides may have the sequence NH2-X(n)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester

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         This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
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                                                                   AAM50907 standard; Peptide; 9
                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Examples; Page 22; 37pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New cyclic peptides for treating
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UNIV NEW YORK STATE.
                                                                                                                                                                                                                                                                               Similarity 87.7; Conservative
                                                                                                                                                                                        VNASSSLF
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                                                                                                                                                                                                                                                                               Score 32; DB
Pred. No. 9.3e
0; Mismatches
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Pred. No. 9.3e+05;
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The present sequence is that of a protected peptide used in an example of the preparation of novel synthetic cyclic peptides of the invention (see hAM50899-906). The peptide corresponds to the Staphylococcus aureus AgrDII sequence with a Cys5 to Ser mutation (lactone). It was synthesised on a Wang-resin using an Fmoc N-alpha protection strategy. Following chain assembly, the peptide was cleaved from the support and the Ser-5 residue deprotected by treatment with a trifluoroacetic acid:anisole:water mixture (90:5:5) for 4 hr. The partially protected peptide-alpha carboxylates were then dissolved in DMF and treated with PyBOP and a catalytic amount of dimethylaminopyridine. Cyclization was complete after 2 hr. The remaining protecting groups were then removed by treatment with HF and the peptide purified by HPIC. The cyclic peptide is capable of inhibiting the agr response of Staphylococcus aureus. The thiololactone structure within native AgrD peptides is required for activation of this response. Replacement of the thiol ester component of the cyclic ring can destroy agr response activating activity while preserving and enhancing inhibitory activity. The cyclic peptides are useful for infection in the preserving and the securial interference, especially for the treatment of S. aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Movel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-JUN-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (UYRQ ) UNIV ROCKEFELLER.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Column 14; 18pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first
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infection; therapy; cyclic.
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Query Match Best Local Similarity

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Score Pred.

32; No.

DB 23; 9.3e+05;

Length

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Query Match Best Local S Matches 7

Similarity 7; Conserv

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Score 32; DB 23; Pred. No. 9.3e+05; 0; Mismatches 1

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                                                                                   The present sequence is that of a novel synthetic AgrD2 linear thioester peptide. The peptide is derived from the cyclic AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agr 3 prometer. This allowed activation or inhibition of the agr 2 response to be monitored spectrophocometrically. Unlike an AgrD2 thiololactone cyclic peptide (see AMM51001), the present peptide was unable to either activate or inhibit the agr response, even when added to cultured cells at uM concentrations. The invention when added to cultured cells at uM concentrations. The invention and methods for preparing them. The cyclic peptides are useful for infection interference, especially for the treatment of S. aureus
   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Staphylococcus
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Modified-site
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                                                                                                                                                   The present sequence is that of a novel synthetic AgrD2 linear free acid peptide. The peptide is derived from the cyclic AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthesic spetide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrB3 containing a beta-lactamase reporter gene fused to the agrB3 crontaining a beta-lactamase reporter densities of the agrB3 crontaining a beta-lactamase reporter gene fused to the agrB3 crosponse to be monitored spectrophotometrically. Unlike an AgrD2 thiololactone cyclic peptide (see AAMS1001), the present peptide was unable to either activate or inhibit the agr response, even when added to cultured cells at uM concentrations. The invention provides claimed cyclic peptides (see AAMS1099)906 and AAM50999)

Cand methods for preparing them. The cyclic peptides are useful for bacterial interference, especially for the treatment of S. aureus
                                                     Query Match
Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UYRQ )
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                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                Example 1; Column 9; 18pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                subject
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2002-170774/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-JUN-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AgrD2; agr response; inhibitor; antibiotic; antibacterial; infection; therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAM51003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAM51003 standard; Peptide; 9
                                                     Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  UNIV ROCKEFELLER.
UNIV NEW YORK STATE
                         VNAXSSLF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mayville P,
                                                                                                                  9 AA;
                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           free
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                                                                    86.5%;
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                                                         0,
                                                       Score 32; DB 23;
Pred. No. 9.3e+05;
0; Mismatches 1
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                                                                                  Length 9;
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                                                         Indels
                                                                                                                                                                           useful for
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                                                         Gaps
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                                                                                                                  The present sequence is that of a novel synthetic AgrD2 lactone cyclic peptide in which residue 5 of the peptide is linked to residue 9 via a lactone bond. The peptide is derived from an AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins cresponsible for pathogenicity in S. aureus. The biological cativity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrP3 promoter. This allowed activation or inhibition of the agr response to be monitored spectrophotometrically. The lactone AgrD2 peptide inhibited the agr response of group I. I or III strains. The invention provides claimed cyclic peptides (see AMS0899-906 and AAMS0999) and methods for preparing them, especially peptides where the cyclic bond is a lactam or lactone bond. The cyclic peptides are useful for bacterial interference, cespecially for the treatment of S. aureus infection.
                                                Matches
                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Stpahylococcus aureus Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AgrD2; agr infection;
                                                                                                                                                                                                                                                                                                                                                                                                  Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference
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Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                        subject
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Muir TW, Mayville P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US6337385-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AgrD2 lactone cyclic peptide
                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                Example 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2002-170774/22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (UYNY ) UNIV ROCKEFELLER.
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                                              . Similarity
7; Conserve
                        VNAXSSLF
                                                                                                9 AA;
                                                                                                                                                                                                                                                                                                                                                                Column 9; 18pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       response; inhibitor; antibiotic; antibacterial; therapy; lactone; cyclic.
                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98US-090402P
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    peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "note linked to peptide"
                                                            86.5%;
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                                                Score 32; DB Pred. No. 9.3e 0; Mismatches
                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Beavis R,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              residue
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                                                                          DB 23;
                                                            .3e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
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                                                                      Length 9;
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AAMS1004 ID AAM

AAM51004 standard; Peptide;

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RESULT 9

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AC ABB0
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AC ABB0
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DT 13-N
DT 13-N
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Best Local Similarity
Thes 7; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      comprising inhibitors of the quorum-sensing pathway of a microorganism are also provided. Methods using such AI-2 analogues are useful for treating pathogen-associated disease states. The compounds and antibiotic compositions can be used to inhibit bacterial cell growth and/or biofilm formation on a medical device, particularly for promoting growth of skin graft replacements used in the treatment of burns and ulcers. They may also be used to aid wound repair, and to inhibit bacterial cell growth and biofilm formation in or on products or devices used for personal hygiene. The present sequence represents a inhibitor of peptide-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Use of autoinducer-2 agonists or antagonists autoinducer-2 receptor, regulating bacterial also antibiotic compositions
                                                        S. aureus peptide #1 used for bacterial interference.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to the use of autoinducer-2 (AI-2) agonists or antagonists for regulating activity of autoinducer-2 receptor, regulating bacterial growth and pathogenesis. Symergistic antiblotic compositions
     Staphylococcus aureus infection; cyclic peptide; AgrD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 33; 134pp; English
                                                                                                                   25-APR-2000
                                                                                                                                                                        AAY67851;
                                                                                                                                                                                                                        AAY67851 standard; peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    quorum sensing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-075235/10.
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07-DEC-2000; 2000US-254398P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptide-mediated quorum sensing inhibitor peptide cyclo-XII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13-MAR-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (UYPR-) UNIV PRINCETON.
(QUOR-) QUOREX PHARM INC.
(UYTE-) UNIV TECHNOLOGIES
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                                                                                                                                                                                                                                                                                                                                                                                                                           N
                                                                                                                                                                                                                                                                                                                                                                   VNASSSLF
                                                                                                                                                                                                                                                                                                                                                                                                                           VNAXSSLF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86.5%;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for regulating activity of growth and pathogenesis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
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     agr response;
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Matches 8
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                                                                                   Misc-difference
                                                                                                                     Staphylococcus aureus.
                                                                                                                                            Staphylococcus aureus infection; AgrD; agr response; treatment; virulence factor.
                                                                                                                                                                              Staphylococcus aureus
                                                                                                                                                                                                       25-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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                                                                                                                                                                                                                              AAY67861;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 9; Page 26; 37pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New cyclic peptides for treating infections with Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2000-147202/13
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                                               WO9967286-A2
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8; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                             9 AA;
                                                                                                                                                                                                                                                                                                                                                               Conservative
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                                                              /label= Unknown
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                                                                                              Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                         83.8%;
                                                                                                                                                                              AgrDII derived peptide sequence
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                                                                                                                                                                                                                                                                                                                                                                         Score 31;
Pred. No.
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9.3e+05;
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24-JUN-1999; 29-DEC-1999.

99WO-US14562

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RESULT 13
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                 This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides; a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Muir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (UYRQ )
                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New
WPI; 2002-681366/73
                 Muir TW,
                                                                                        24-JUN-1998;
24-JUN-1999;
                                                                                                                   27-DEC-2001; 2001US-0032950
                                                                                                                                     20-JUN-2002
                                                                                                                                                       US2002077453-A1
                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                                              agr response
                                                                                                                                                                                                                                       Cyclic peptide; Staphylococcus aureus; infection;
                                                                                                                                                                                                                                                        Cyclic
                                                                                                                                                                                                                                                                           13-DEC-2002
                                                                                                                                                                                                                                                                                             ABP53540;
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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                                                              MAYV/)
                                                                        (MUIR/)
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                               MUIR T W.

// MAYVILLE P.

// NOVICK R P.

// BEAVIS R.

// JI G.
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NEW YORK ST.
                                                                                                                                                                                                                              inhibitor.
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                                                                                        98US-090402P.
99US-0339511.
                                                                                                                                                                                                                                                        SEQ
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100.0%; Pr
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                  Novick
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0; Mismatches
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RESULT 14
ARM50899
ID AAM50
XX AAM50
XX AAM50
XX O8-M9
DT O8-M9
XX Staph
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention. The present invention also describes a method for treating Staphylococcus aureus infection comprising the administration of a composition comprising (I). (I) has antibacterial activity, and can be used as an agr gene response inhibitor. The peptides are useful for treating S. aureus infections.
                                                                                                                                                                                                                                                                                                                                                            Staphylococcus antibacterial;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New cyclic infections
                                                                Novel synthetic, interference and
                                                                                                                                                                                                                                                                                                                                                                                                            08-MAY-2002
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                                                                                                                                                                                                                                                              Misc-difference
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                                                                                                                                                                                                                                                                                                                                        Synthetic
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                                    Claim 7; Column
                                                                                             WPI; 2002-170774/22.
                                                                                                                Muir TW,
                                                                                                                                  (UYRQ ) UNIV
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                                                                                                                                                                                                                                                                                                                                                                                       AgrD-autoinducing
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NEW YORK STATE.
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                                    19; 18pp;
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peptide"
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The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of staphylococcus aureus. It is an AgrD-autoinducing peptide, where

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AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NH2-X(n)-Z-X(y)-COOH, with a

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RESULT 15
AAM50908
cyclic bond between the Z residue and COOH other than a thioester cond, where X is an amino acid, an amino acid analogue, a peptidomimetic or non-amide isostere, Z is a synthetic or a peptidomimetic or non-amide isostere, Z is a synthetic or a condition of the cyclic bond is 0-10 and y is 1-10. The cyclic bond is especially a lactam or lactone bond. The thiololactone structure within native AgrD peptides is required for activation of the agr response. Elimination of the thiol ester component of the cyclic ring structure can destroy agr response activating activity while preserving and enhancing inhibitory activity. A claimed method of preparing a cyclic peptide involves: assembling a linear peptide chain on to a solid phase resin support; deprotected peptide with neutral buffer for a time sufficient to form the cyclic peptide and cleave the peptide from the support; and recovering the cyclic peptide. The peptide is useful for and recovering interference, especially for the treatment of S. aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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(UYRQ ) UNIV ROCKEFELLER
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infection; therapy; cyclic.
                             98US-090402P
                                                          9908-0339511
                                                                                                                                  9
/note= "note linked to residue 5 to form cyclic
peptide"
                                                                                                                                                                                         /note= "Ser(Bzl)"
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                                                                                                                                                                                                                                                                        /note= "Ser(Bzl)"
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Staphylococcus aureus AgrDII sequence with a Cys5 to diaminopropionic card (Upr) mutation (lactam). It was synthesised on a Wang-resin cu using an Fmoc N-alpha protection strategy. Following chain assembly, the peptide was cleaved from the support and the Dpr-5 residue deprotected by treatment with a trifluoroacetic acid.anisole:water mixture (90:5:5) for 4 hr. The partially protected peptide-alpha carboxylates were then dissolved in DMF and treated with PyBOP. Cyclization was complete after 2 hr. The remaining protecting groups were removed by treatment with HF and the peptide purified by HPIC. The cyclic peptide is capable of inhibiting the agr response of staphylococcus aureus. The thiololactone structure within native AgrD peptides is required for activation of this response. Replacement of the thiol ester component of the cyclic ring structure with a lactam (as in the present case) or a lactone can destroy agr response activity. The cyclic peptides are useful for enhancing inhibitory activity. The cyclic peptides are useful for bacterial interference, especially for the treatment of S. aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present sequence is that of a protected peptide used in an example of the preparation of novel synthetic cyclic peptides of the invention (see AAMS0899-906). The peptide corresponds to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Column 14; 18pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 subject
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection in a
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (UYNY ) UNIV NEW YORK STATE
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Search completed: January 29, 2004, 14:52:12 Job time: 36.0735 secs

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Query Match Best Local S Matches

8; Conserv

Conservative

83.8%; bu 100.0%; Pr 0;

score 31; DB; Pred. No. 9.3

DB 23; ; 9.3e+05;

Length 9

Indels

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VNAXSSLF

Sequence

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Result
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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1: pir1:*
2: pir2:*
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37
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AVNAXSSLF 9
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                                                                                                                                                                                                                                                                                                           Length DB
GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd
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AA30200
A32260
D70104
C726579
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T30525
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T31617
AH2933
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S48463
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cobalamin adenosyl
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A;Cross-references: EMBL:Z99281; PIDN:CAB16503.1; GSPDB:GN00022; A;Experimental source: clone Y57G11C C;Genetics:

CESP:Y57G11C.1

A; Gene: CESP:Y57G11C.1

A;Reference number: Z20330
A;Accession: T27215
A;Status: preliminary; translated
A;Molecule type: DNA
A;Residues: 1-633 <WIL>

from

GB/EMBL/DDBJ

submitted to the EMBL Data Library, A; Reference number: Z20330

September

R; McMurray,

A

hypothetical protein Y57G11C.1 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-OCt-1999 #sequence_revision 15-Oct-1999 #tex: C;Accession: T27215

15-Oct-1999 #text_change 31-Jan-2000

RESULT T27215

ALIGNMENTS

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hypothetical protein Y50EBA.m - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
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C;Accession: T31617
R;Steward, C.
submitted to the EMBL Data Library, September 1999
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A;Accession: T31617
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A; Introns:
                                                                                                                   A;Status: preliminary; translated from GB/EMBL/DDBJ
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A;Cross-reference: EMBL:AL117200; NID:e1549770; PIDN:CAB55056.1; CESP:Y50E8A.m
A;Experimental source: clone Y50E8A
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T31617
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A;Introns: 70/1; 329/3
C;Superfamily: multidrug resistance protein; ATP-binding cassette
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ns: 273/3; 447/1;
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7; Conserv
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                                                                       526/1; 735/1; 1247/1; 1418/1; 1494/1; 1753/3
   86.5%; Score 32; DB 77.8%; Pred. No. 44; tive 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91.9%; Score 34; DB 2; 77.8%; Pred. No. 3.9; :ive 1; Mismatches
                                    DB 2;
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RESULT
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A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, A;Authors: Yoo, H.; Tao, Y.; Biddle, Y.; Authors: Yoo, H.; Tao, Y.; Biddle, Y.; Authors: You, Y.; Biddle, Y.; Authors: Yoo, Y.; Biddle, Y.; Authors: You, Y.; Biddle, Y.; Authors: Yoo, Y.; Biddle, Y.; Authors: You, Y.; Biddle, Y.; Authors: You, Y
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C; Superfamily: N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;Goodner, B.; Hinkle, G.; Gattung, S.; Miller, N.; Blanchard, M.; Qurollo, B.; Gold
A.; Liu, F.; Wollam, C.; Allinger, M.; Doughty, D.; Scott, C.; Lappas, C.; Markelz,
Dience 294, 2323-2328, 2001
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Date: 11-Jan-2002 #sequence_revision 11-Jan-2002 #text_change 18-Nov-2002
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Residues: 1-441 <KUR>
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77.8%;
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Pred. No.
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ckelz, B.;
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RESULT 7
S13098
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A;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aux A;Reference number: A89758; MUID:21311952; PMID:11418146
A;Accession: C89995
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A; Residues: 1-926 <BOW>
A; Cross-references: GB:
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;Specias: Saccharomyces cerevisiac
C;Date: 02-Dec-1994 #sequence_revi
C;Accession: S48463
                                        A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-265 <VIR>
                                                                                                     R;Viret, J.F.; Schantz, M.L.; Schantz, R. Nucleic, Acids Res. 18, 7179, 1990
A;Title: Nucleotide sequence of a maize cDNA coding for A;Reference number: S13098; MUID:91088340; PMID:2263499
A;Accession: S13098
                                                                                                                                                                                                             chlorophyll a/b-binding protein precursor - maize C;Species: Zea mays (maize) C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 C;Accession: S13098
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C;Species: Staphylococcus aureus
C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 22-Oct-2001
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A; Map position: 9L
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A;Cross-references: EMBL:X55892; NID:g22354; PIDN:CAA39376.1; PID:g22355
C;Superfamily: chlorophyll a/b-binding protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Gene: agrD
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A;Experimental source:
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A; Residues: 1-47 < KUR>
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Matches 7
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5e: strain_N315
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MIPS:YIL109c; SGD:
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75.0%;
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hypothetical protein T5A14.12 [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Dare: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Mar-2001
C;Accession: A96597
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alver, Chin, C.W.; Chung, M.X.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kin, A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Liuros, J.S.; Maiti, R.; Marz; C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Liuros, J.S.; Maiti, R.; Marz; A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tall ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Accession: A96597
A;Accession: A96597
                                                                                                                                                                                                                                                                                                                                                                                            C;Accession: T30942
R;Zhu, Y.C.; Oppert, B.; Kramer, K.J.; McGaughey, W.H.; Dowdy, A.K.
submitted to the EMBL Data Library, November 1997
A;Description: Molecular comparison of aminopeptidase cDNAs and gene structure between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aminopeptidase (EC 3.4.11.-) - Indian meal moth
C;Species: Plodia interpunctella (Indian meal moth)
C;Date: Plodia interpunctella (Indian meal moth)
C;Date: 2000 #sequence_revision 19-May-2000 #text_change 01-Feb-2002
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A;Cross-references: EMBL:AF034483; NID:g2645992;
C;Superfamily: membrane alanyl aminopeptidase
                                                                                                                                                                                                                                                                                                                               A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                     A; Reference number: Z20942
A; Accession: T30942
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A;Residues: 1-315 <STO>
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                                                                                                                                                                                                               Keywords: aminopeptidase
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77.8%;
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Pred. No. 62;
2; Mismatches
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Pred. No.
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Pred. No. 17;
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0; Mismatches
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A;Description: Sulfolobus solfataricus complete genome.
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R;Zhu, Y.C.; Oppert, B.; Kramer, K.J.; McGaughey, W.H.; Dowdy, A.K. submitted to the EMBL Data Library, November 1997

submitted to the EMBL Data Library, November 1997
A;Molecule type: mRNA
A;Residues: 1-382 <CHS>
A;Cross-references: GB:J03881; NID:g198706; PIDN:AAA39411.1; PID:g293692
A;Note: the authors translated the codon ATT for residue 1 as Leu and CCG
C;Superfamily: lysosome-associated membrane protein
                                                                                                                  C;Accession: A28067
R;Chen, J.W.; Cha, Y.; Yuksel, K.U.; Gracy, R.W.; August, J.T.
J. Biol. Chem. 263, 8754-8758, 1988
J. Biol. Chem. 263, 8754-8758, 1988
A;Title: Isolation and sequencing of a cDNA clone encoding lysosomal membrane glycopx:
A;Reference number: A28067; MUID:88243732; PMID:3379044
A;Accession: A28067
                                                                                                                                                                                                                                                                                                                               RESULT 12
A28067
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A;Residues: 1-1016 <ZHU:
A;Cross-references: EMBL:AF034484; NID:g2645994; PID:g2645995; PIDN:AAC36147.1
C;Superfamily: membrane alanyl aminopeptidase
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C;Keywords: aminopeptidase
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A; Residues: 1-271 < KUR>
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A; Accession: F90350
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                                                                                                                                                                                                                                                   lysosomal membrane glycoprotein LAMP-1 - mouse
C.Species: Mus musculus (house mouse)
C.Date: 30-Sep-1989 #sequence_revision 30-Sep-1989 #text_change
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6; Conservation
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66.7%;
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Pred. No. 25;
2; Mismatches
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Pred. No. 62;
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G.; Awayez, M.J.; Cha hi-Ngoc, H.P.; Redder

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Gaps

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20-Aug-1999

for residue

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A;Title: Isolation and sequencing of a cDNA clone encoding 107 kDa sialog A;Reference number: $03331; MUID:89153580; PMID:2920835 A;Accession: $03331 A;Accession: $03
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A; Residues: 1-407 < HOW>
A; Cross-references: EMBL: J03672
A; Cross-references: EMBL: J03672
A; Note: the authors translated the codon GGG for residue 15 as R; Himeno, M.; Noguchi, Y.; Sasaki, H.; Tanaka, Y.; Furuno, K.; FEBS Lett. 244, 351-356, 1989
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A;Title: Molecular characterization of P2B/LAMP-1, a major protein target of a metastasi
A;Reference number: A60534; MUID:90002989; PMID:2676155
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Residues: 1-405 <HEF> C; Superfamily: lysosome-associated membrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-405 <HEF>
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R;Heffernan, M.; You
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P23/LAMP-1 precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 03-May-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Proc. Natl. Acad. Sci. U. A; Title: Derived protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           glycoproteins.
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Accession: A30200
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Berived protein sequence, oligosaccharides, and membrane insertion of the 120-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity es 6; Conserv
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                                                                                                                             Conservative
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Pred. No. 37;
1; Mismatches
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Search completed: January 29, Job time: 12.1176 secs

2004, 14:58:22

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A;Cross-references: EMBL:M31939; GB:J03356; NID:g153210
R;Purcell, J.P.; Greenplate, J.T.; Jennings, M.G.; Ryerse, J.S.; Pershing, J.C.; Sims Biochem. Biophys. Res. Commun. 196, 1406-1413, 1993
A;Title: Cholesterol oxidase: a potent insecticidal protein active against boll weevi A;Reference number: PC2002; MUID:94071904; PMID:8250897
A;Accession: PC2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:M31939; GB:J03356; NID:g153210; PIDN:AAA26719.1; PA;Note: the authors translated the initiation codon GTG for residue 1 as R;HOTII, M.; Ishizaki, T.; Paik, S.Y.; Manome, T.; Murooka, Y. J. Bacteriol. 172, 3644-3653, 1990

A;Title: An operon containing the genes for cholesterol oxidase and a cythic accession: S15809; MUID:90299781; PMID:2361941

A;Accession: S15809; MUID:90299781; PMID:2361941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Species: Streptomyces sp.
C;Date: 20-Oct-1989 #sequence revision 20-Oct-2000 #text_change 20-Oct-2000 C;Accession: A32260; S18810; FC2002
R;Ishizaki, T.; Hirayama, N.;Shinkawa, H.; Nimi, O.; Murooka, Y.
밁
                                         Ş
                                                                                                                                                                                                      C;Keywords: oxidoreductase
F;1-42/Domain: signal sequence #status predicted <SIG>
F;43-546/Product: cholesterol oxidase #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Title: Nucleotide sequence of the gene for cholesterol A;Reference number: A32260; MUID:89123081; PMID:2914858 A;Accession: A32260
                                                                                                                                                                                                                                                                                                                                    A;Molecule type: protein
A;Residues: 'XXXTF',48-54,'XX',57,'X',59-60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-30 < HOR>
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re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.
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     SwissProt_41:*
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01-FEB-1995 (Rel. 31, Created)

01-FEB-1995 (Rel. 31, Last sequence update)

11-FEB-1995 (Rel. 42, Last annotation update)

15-SEP-2003 (Rel. 42, Last annotation update)

Protein transport protein Sec24 (Abnormal nuclear mor.

SEC24 OR ANUL OR YIL109C.

Saccharomyces cerevisiae (Baker's yeast).

Saccharomyces, Saccharomycetanes, Saccharomycetanes, Saccharomycetales, Saccharomycetanes, Saccharomyces.
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PubMed=9169870;

Churcher C.M., Bowman S., Badcock K., Bankier A., Brown D.,

Chillingworth T., Connor R., Devlin K., Gentles S., Hamlin N.,

Chillingworth T., Kunt S., Jagels K., Jones M., Lye G.,

Harris D.E., Horsnell T., Hunt S., Jagels K., Jones M., Eye G.,

Moule S., Odell C., Pearson D., Rajandream M.A., Rice P., Rowley N.,

Skelton J., Smith V., Walsh S., Whitehead S., Barrell B.G.,

"The nucleotide sequence of Saccharomyces cerevisiae chromosome IX.";
  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Sec24p and Issip function interchangeably formation from the endoplasmic reticulum in cerevisiae.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHARACTERIZATION.
MEDLINE=20177547; PubMed=10712514;
Kurihara T., Hamamoto S., Gimeno R.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHARACTERIZATION.
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                                                                                                                                                                                             BIO1. Cell 11:983-998(2000).

BIO1. Cell 11:983-998(2000).

FUNCTION: COMPONENT OF THE CONT. THAT COVERS ER-DERIVED FUNCTION: COMPONENT OF THE STOLES IN TRANSPORT FROM THE ENDOPLASMIC RETICULUM TO THE GOLGI APPARATUS. COPII ACTS IN THE CYTOPLASM TO PROMOTE THE TRANSPORT OF SECRETORY, PLASMA MEMBRANE, AND VACUOLAR PROTEINS FROM THE ENDOPLASMIC RETICULUM TO THE GOLGI COMPLEX.

SUBUNIT: COPII IS COMPOSED OF AT LEAST FIVE PROTEINS: THE SEC23/24 COMPLEX, THE SEC13/31 COMPLEX AND SAIL (By Similarity).

SUBCELLULAR LOCATION: Cytoplasmic (By Similarity).

SUBCELLULAR LOCATION: Cytoplasmic (By Similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              387:84-87(1997).
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RRPB_IBVK
AF10_MOUSE
AF10_MOUSE
PDRC_YEAST
YCF1_OENHO
RRPB_ISVB
RRPB_CVMJH
GVPA_ANCAQ
Y228_HAEIN
ATPE_CHAGI
LGB1_VICPA
LGB1_VICPA
COMD_METJA
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Result No.

Minimum Maximum

DB BG

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Total number

Scoring table:

Title: Perfect score:

3

protein

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RESULT
CB29_MA
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                                                                                                                                             Wiret J.F., Schantz M.L., Schantz R.;

"Nucleotide sequence of a maize cDNA coding for a light-harvesting rehlorophyll ab binding protein of photosystem II.";

Trucleic Acids Res. 18:719-7179(1990).

11. Nucleic Acids Res. 18:719-7179(1990).

12. Nucleic Acids Res. 18:719-7179(1990).

13. PUNCTION: THE LIGHT-HARVESTING COMPLEX (LHC) FUNCTIONS AS A LIGHT RECEPTOR, IT CAPTURES & DELIVERS EXCITATION ENERGY TO PHOTOSYSTEMS WITH WHICH IT IS CLOSELY ASSOCIATED. THE N-TERMINUS OF THE PROTEIN CONTINUOUS RETENUS INTO THE STROMA WHERE IT IS INVOLVED WITH ADHESION OF EXTENUS INTO THE STROMA WHERE IT IS INVOLVED WITH ADHESION OF CORANAL MEMBRANES AND PHOTORSGULATED BY REVERSIBLE PHOSPHORYLATION OF ITS THREONINE RESIDUES; BOTH ARE BELLEVED TO MEDIATE THE DISTRIBUTION OF EXCITATION ENERGY BETWEEN PHOTOSYSTEMS I AND ISSURDINIT: THE LHC COMPLEX CONSISTS OF CHLOROPHYLLS (A & B) AND CHLOROPHYLL A-B BINDING PROTEINS.
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Best Local
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01-AUG-1992
28-FEB-2003
Chlorophyll
I CAB-M9) (Li
                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Multigene i
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Pfam;
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                                                                                                                                                                                                                                                                                                                                                                      STRAIN=cv. W22;
MEDLINE=91088340; PubMed=2263499;
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926 AA;
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(Rel. 23, Last sequence update)

(Rel. 41, Last annotation update)

A-B binding protein M9, chloroplast precursor (LHCII type
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103635 MW;
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75.0%;
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EMBL; X92418; CAA63147.1; -.
HAMAP; MF 00456; -; 1.
InterPro; IPR001048; Aa kinase.
InterPro; IPR001057; Glu 5kinase.
Pfam; PF00696; aakinase; 1.
PRINTS; PR00474; GLUCKINASE.
PROSITE; PS00902; GLUTAMATE 5 KINASE; 1.
TYANBÉCTASE; KINASE; PTOLINE DIOSYNTHESIS.
SEQUENCE 267 AA; 28966 MW; B7244BC2B7432BE3 CRC64;
                                                                                                                          This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                           of the proBA operon and its products.";
Microbiology 142:3275-3282(1996)
-!- FUNCTION; Catalyzes the transfer of a phosphate group to glutamate
to form glutamate 5-phosphate which rapidly cyclizes to 5-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MaizeDB; 61648; -.
InterPro; IPR001344; Chloro_ABbind.
                                                                                                                                                                                                                                                                                     oxoproline.
-!- CATALYTIC ACTIVITY: ATP + L-glutamate =
                                                                                                                                                                                                                                                                                                                                                               Limauro D., Falciatore A., Basso A.L., "Proline biosynthesis in Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN=ATCC 19258;
MEDLINE=97124211; PubMed=8969524;
                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=1308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacteria; Firmicutes; Lactobacillales;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Glutamate 5-kinase (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-MAY-2000
28-FEB-2003
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30-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00504; chlorca_b-bind; 1.
ProDom; PD000275; Chloro_ABbind; 1.
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                                                                                                                                                                                                                             phosphate.

PATHWAY: Proline biosynthesis; first step.

SUBCELLULAR LOCATION: Cytoplasmic (By similarity).

SIMILARITY: Belongs to the glutamate 5-kinsee family.
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(Rel. 39, Last sequence update)
(Rel. 41, Last annotation update)
kinase (EC 2.7.2.11) (Gamma-glutamyl kinase)
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77.8%;
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Pred. No. 7.6
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thermophilus: characteri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Streptococcaceae
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MBL outstation ~
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Best Local Similarity
Matches 6; Conserv
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LMOUSE
LMP1 MOUSE
P11438; Q62
                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 25-406 FROM N.A., AND PARTIAL SEQUENCE.
MEDLINE=88243732; PubMed=3379044;
Chen J.W., Cha Y., Yuksel K.U., Gracy R.W., August J.T.;
"Isolation and sequencing of a cDNA clone encoding lysosomal membrane glycoprotein mouse LAMP-1. Sequence similarity to proteins bearing onco-differentiation antigens.";
Onco-differentiation antigens.";
J., Biol. Chem. 263:8754-8758(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Characterization and cloning of lgp110, glycoprotein from mouse and rat cells."; J. Biol. Chem. 265:12036-12043(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE FROM N.A.
MEDLINE=90307738; PubMed=2142158;
MEDLINE=90307738; Sibmed=2142158;
MEDLINE=90307738; PubMed=2142158;
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01-AUG-1990 (Rel. 15, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Lysosome-associated membrane glycoprotein 1 precursor (LAMP-1) (LGP-A)
(LGP-120) (CD107A) (P2B).
EMBL; M32015; AAA39428.1; -.
EMBL; M25244; AAA39869.1; -.
EMBL; J03381; AAA39411.1; -.
PIR; A28067; A28067.
PIR; A60534; A60534.
                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                   protein 1.";
J. Biol. Chem.
                                                                                                                                                                                                                                                                                                                                                              MEDLINE=90237040; PubMed=2332434; Arterburn L.M., Earles B.J., August J.T.; "The disulfide structure of mouse lysosome-associated membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Heffernan M., Yousef
Submitted (FEB-1990)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Eukaryota; Eutheria; Rodentia;
NCBN_TaxID=10090;
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                                                                                                                                                                                                                                                                        Biol. Chem. 265:7419-7423(1990).
FUNCTION: PRESENTS CARBOHYDRATE LIGANDS
IMPLICATED IN TUMOR CELL METASTASIS.
SUBCELLULAR LOCATION: Type I membrane pr
THIS PROTEIN SHUTTLES BETWEEN LYSOSOMES,
                                                                                                                                                                                                                                                           MEMBRANE
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Yousefi
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to the EMBL/GenBank/DDBJ
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SIMILARITY).
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Pfam; PF01299; Lamp; 1.
Pfam; PF001399; LYSASSOCTDMP.
PROSITE; PS00310; LAMP_1; 2.
PROSITE; PS00311; LAMP_2; 1.
Transmembrane; Glycoprotein; Ly
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P14562; P97620;

01-JAN-1990 (Rel. 13, Created)
01-WN-1990 (Rel. 13, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Lysosome-associated membrane glycoprotein 1 precursor (LAMP-1) (LAMP LYSOSOMAL membrane glycoprotein) (LGP-120) (CD107A).

LAMP1 OR LAMP-1.
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"Derived protein sequence, of the 120-kDa lysosomal m
                   SEQUENCE FROM N.A. MEDLINE=89017240; I Howe C.L., Granger
                                                Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
MCBI_TaxID=10116;
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                   PubMed=3174652; r B.L., Hull M.,
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75.0%;
membrane
oligosaccharides, and membrane embrane glycoprotein (lgp120):
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MAAPGARRPL -> MRPPRAAV
LF -> IP (IN REF. 3).
V -> I (IN REF. 2 AND 3)
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SECOND LUMENAL DOMAIN
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CYTOPLASMIC (POTENTIAL)
FIRST LUMENAL DOMAIN.
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Pred. No. 21;
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InterPro; IPR002000; Lamp.
Pfam; PF01299; Lamp; 1.
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EMBL; X14765; CAA32873.1; -.
EMBL; U75406; AAB19108.1; -.
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-!- SIMILARITY: BELONGS TO THE LAMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=Wistar Kyoto; TISSUE=Aortic smooth muscle;
Adams L.A., Werny I., Schwartz S.M.;
Submitted (OCT-1996) to the EMBL/GenBank/DDBJ databases.
-i- FUNCTION: PRESENTS CARBOHYDRAIE LIGANDS TO SELECTINS.
-i- SUBCELLULAR LOCATION: Type I membrane protein. Lygoson
THIS PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOSOMES, AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Isolation and sequencing of a cDNA clone encoding 107 kDa sialoglycoprotein in rat liver lysosomal membranes."; FEBS Lett. 244:351-356(1989).
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MEDLINE=89153580; PubMed=2920835;
Himeno M., Noguchi Y., Sasaki H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                identification of glycoproteins."; Proc. Natl. Acad.
                                                                                                                                                                                                                                                                                                         SIGNAL
                                                                                                                                                                                                                                                                                                                 PRINTS; PR00336; LYSASSOCTDMP.
PROSITE; PS00310; LAMP 1; 2.
PROSITE; PS00311; LAMP 2; 1.
Transmembrane; Glycoprotein; Lysosome; Signal.
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         Sci. U.S.A. 85:7577-7581(1988).
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Best Local S
Matches 6
EMBL; M31939; AAA26719.1; -.

PIR; A32260; A32260.

PDB; 1B4V; 06-7MA-99.

PDB; 1B8S; 09-FEB-99.

PDB; 1CBO; 10-MAR-99.

PDB; 1CT0; 11-MAR-99.

PDB; 1CT0; 11-MAR-99.

PDB; 1MXT, 25-FEB-03.

InterPro; IPR000172; GMC_oxred.

InterPro; IPR006311; Tat.

Pfam; PP55199; GMC_oxred C; 1.

TIGRPAMS; TIGR01409; TAT_signal_seq; 1.

PROSITE; PS00624; GMC_OXRED_1; 1.

PROSITE; PS00624; GMC_OXRED_2; FALSE_NEG.
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01-OCT-1989
15-SEP-2003
Cholesterol
                                                                                                                                                                                                                                                                                    CARBOHYD
CONFLICT
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SEQUENCE
                                                                                                                                                                                   between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=99211873; PubMed=10194345; Yue Q.K., Kass I.J., Sampson N.S., V"Crystal structure determination of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ishizaki T., Hirayama N., Shinkawa H., Nimi O., I
"Nucleotide sequence of the gene for cholesterol
Streptomyces sp.";
J. Bacteriol. 171:596-601(1989).
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                                                                                                                                                                                                                                                                                                                                                       Biochemistry 38:4277-4286(1999).
-!- CATALYTIC ACTIVITY: Cholesterol + O(2)
                                                                                                                                                                                                                                                                                                                                                                                 mutants."
                                                                                                                                                                                                                                                                                                                                                                                            "Crystal structure determination of cholesterol Streptomyces and structural characterization of
                                                                                                                                                                                                                                                                                                                                                                                                                                          X-RAY CRYSTALLOGRAPHY (1.5 ANGSTROMS), AND MUTAGENESIS
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SIMILARITY: BELONGS TO THE GMC OXIDOREDUCTASES FAMILY.
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(Rel. 12, Last sequence update)
(Rel. 42, Last annotation update)
oxidase precursor (EC 1.1.3.6) (CHOD).
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Flavoprotein; FAD; 3D-structure
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H->N,Q: REDUCED ACTIVITY
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(2) SIRAIN=ATCC 35210 / B31;

(3) MEDLINE=98065943; PubMed=9403685;

(4) MEDLINE=98065943; PubMed=9403685;

(5) A Lathigra R., White O., Ketchum K.A., Dodson R., Hickey E.K., Gwinn M.,

(6) Dougherty B., Tomb J.-F., Fleischmann R.D., Richardson D.,

(7) Dougherty B., Tomb J.-F., Fleischmann R.D., Richardson D.,

(8) A Dougherty B., Tomb J.-F., Fleischmann J.,

(9) Dougherty B., Tomb J.-F., Fleischmann J.,

(9) A Dougherty B., Tomb J.-F., Fleischmann J.,

(10) A Sarland R., Palmer N., Adams M.D., Gocayne J.D., Weidman J.,

(11) Weiterback T., Watthey L., McDonald L., Artiach P., Bowmann C.,

(12) Utterback T., Watthey L., McDonald L., Artiach P., Bowmann C.,

(13) A Garland S., Fujii C., Cotton M.D., Horst K., Roberts K., Hatch B.,

(14) "Genomic sequence of a Lyme disease spirochaete, Borrelia

(15) burgdorferi.",

(16) Lyme disease spirochaete, Borrelia
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2_PARE BORBU
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15-DEC-1998 (Rel. 37, Last seque
16-OCT-2001 (Rel. 40, Last anno)
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                                                                   MEDLINE=95111614; PubMed=7812434;
Ojaini C., Davidson B.E., Saint-Girons I., Old I.G.;
Ojaini C., Davidson B.E., Saint-Girons I., Old I.G.;
"Conservation of gene arrangement and an unusual organization of genes in the linear chromosomes of the Lyme disease spirochaetes Borrelia burgdorferi, B. garinii and B. afzelii.";
Microbiology 140:2931-2940(1994).

"IT HAS RELAXATION OF SUPERCOILED DNA ACTIVITY.
PERPORMS THE DECATEMATION EVENTS REQUIRED DURING THE REPLICAT PERPORMS THE DRAMMINATION EVENTS REQUIRED DURING THE REPLICAT OF A CIRCULAR DNA MOLECULE (BY SIMILARITY).

"I- SUBUNIT: COMPOSED OF TWO SUBUNITS: PARC AND PARE.
-!- SIMILARITY: Belongs to the type II topoisomerase family.
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                              SEQUENCE OF 1-83 FROM N.A. STRAIN=212;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Borrelia burgdorferi (Lyme disease spirochete).
Bacteria; Spirochaetes; Spirochaetales; Spirochaetaceae; Borrelia.
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66.7%;
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annotation update)
(EC 5.99.1.-).
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                                                                                                                                REPLICATION
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01-OCT-1989 (Rel. 12, Last sequence
15-SEP-2003 (Rel. 42, Last annotatic
3-hydroxy-3-methylglutaryl-coenzyme
coA reductase 1).
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P12683;
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InterPro; IPR001241; DNA_topoisoII.

Ffam; PF00204; DNA_gyraseB; 1.

Pfam; PF00218; HATPase c; 1.

PRINTS; PR00418; TPIZFAMILY.

SMART; SM00387; HATPase c; 1.

SMART; SM00387; HATPase c; 1.

PROSITS; P800177; TOPOISOMERASE II; 1.

PROSITS; P800177; TOPOISOMERASE II; 1.

ISOMERASE; Topoisomerase; ATP-bInding; Complete proteome.

SEQUENCE 599 AA; 68774 MW; B5901F17B1CC7721 CRC64;
                        SEQUENCE OF 776-965 FROM N.A.

MEDLINE=86287298; PubMed=352636;

Basson M.E., Thorsness M., Rine J.;

Basson M.E., Thorsness M., Rine J.;

"Saccharomyces cerevisiae contains two functional genes encoding hydroxy-3-methylglutaryl-coenzyme A reductase.";

Proc. Natl. Acad. Sci. U.S.A. 83:5563-5567(1986).

-!- FUNCTION: THIS TRANSMEMBRAME GLYCOPROTEIN IS INVOLVED IN THE CONTROL OF CHOLESTEROL BIOSYNTHESIS. IT IS THE RATE-LIMITING ENZYME OF THE STEROL BIOSYNTHESIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=89127221; PubMed=3065625;
Basson M.E., Thorsness M., Finer-Moore J., Stroud
"Structural and functional conservation between ye
hydroxy--methylglutaryl coenzyme A reductases, the
enzyme of sterol biosynthesis.";
Mol. Cell. Biol. 8:3797-3808(1988).
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                                                                                                                                                                                                                                                       Bowman S., Churcher C.M., Badcock K., Brown D., Chillingworth T., Connor R., Dedman K., Devlin K., Gentles S., Hamlin N., Hunt S., Jagels K., Lye G., Moule S., Odell C., Pearson D., Rajandream M.A., Rice P., Skelton J., Walsh S., Whitchead S., Barrell B.G.; "The nucleotide sequence of Saccharomyces cerevisiae chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                    Mol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Sacci
Saccharomycetales; Saccharomycetaceae; Saccharomyces
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TIGR; BB0036; -.
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STRAIN=S288c / AB972;
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01-FEB-1996 (Rel.
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Hypothetical 57:
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Query Match
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Pfam; PF00368; HMG-COA red.; 1.
PRINTS; PR00071; HMG-COARDTASE.
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PROSITE; PS00066; HMG COA REDUCTASE 1;
PROSITE; PS00318; HMG COA REDUCTASE 2;
PROSITE; PS01192; HMG COA REDUCTASE 3;
PROSITE; PS50065; HMG COA REDUCTASE 4;
PROSITE; PS50156; SSD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; M22002; AAA34676.1; -.
EMBL; Z46373; CAA86503.1; -.
PIR; A30239; A30239.
SGD; S0004540; HMG1.
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-!- SIMILARITY: BELONGS TO THE HMG-COA REDUCTASE FAMILY
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hydroxy-3-methylglutary1-CoA + 2 NADPH.
-i- PATHWAY: Cholesterol biosynthesis.
-i- SUBCELLULAR LOCATION: Integral membrane
               YEAST
                                                                                                                                                                                                                 SEQUENCE
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35 SIMILARITY.

AUGUREAL BASE (BY SIMILARITY).

N-LINKED (GLONAC. ...) (POTENTIAL)

N-CA4944FB7BZDT
                                                                                                                                                 Conservative
STANDARD;
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protein in ATP2-RPS5 in

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RESULT 10
DP3A CAMJE
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Best Local
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PIR; S57145; S57145.

TRANSPAC; T03226; CAR17.

SGD; S0003883; CAR17.

InterPro; IPR006222; GCV_T

Pfam; PF01571; GCV_T; 1.
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QPPTI :

16-OCT-2001 (Rel. 40, Creat

16-OCT-2001 (Rel. 40, Last

28-FEB-2003 (Rel. 41, Last

DNA polymerase III alpha st

DNAE OR CJ0718
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                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

STRAIN-NCTC 11168;

MEDLINE=20150912; PubMed=10688204;

MEDLINE=20150912; PubMed=10688204;

Parkhill J., Wren B.W., Mungall K., Ketley J.M., Churcher C.,

Basham D., Chillingworth T., Davies R.M., Feltwell T., Holroyd S.,

Jagels K., Karlyshev A.V., Moule S., Pallen M.J., Penn C.W.,

Quail M.A., Rajandream M.A., Rutherford K.M., van Vliet A.H.M.,

Whitehead S., Barrell B.G.;

Whitehead S., Barrell B.G.;

Whe genome sequence of the food-borne pathogen Campylobacter jejuni

reveals hypervariable sequences.";

Nature 403:655-668(2000).

III IS A COMPLEX, MULTICHAIN ENZYME

TENTONICITE DOS MOGT THE BEBLICATIVE SYNTHESIS IN BACTERIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rose M., Koetter P., Entian K.D.; submitted (SEP-1995) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Saccharomyces cerevisiae (Baker's yeast),
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Campylobacter jejuni.
Bacteria, Proteobacteria, Epsilonproteobacteria, Campylobacterales,
Campylobacteraceae, Campylobacter.
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  SUBCELLULAR LOCATION: Cytoplasmic (By similarity).
                                                                                                                                                                         FUNCTION: DNA POLYMERASE III IS A COMPLEX, MULTICHAIN ENZYME RESPONSIBLE FOR MOST OF THE REPLICATIVE SYNTHESIS IN BACTERIA. THIS DNA POLYMERASE ALSO EXHIBITS 3' TO 5' EXONUCLEASE ACTIVITY. THE ALPHA CHAIN IS THE DNA POLYMERASE (BY SIMILARITY). CATALLYTIC ACTIVITY: N deoxynucleoside triphosphate = N diphosphate
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01-NOV-1997
28-FEB-2003
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MEROPS; M50.UPB;
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                                                     InterPro;
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             IPR000644;
IPR001193;
IPR006025;
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use by non-profit institute. There are no restrictions modified and this statement is not removed. Usage by an area alicense agreement.
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InterPro; IPR003141; PHP N.
InterPro; IPR003141; PHP N.
InterPro; IPR004805; PolC_alpha.
Pfam; PF02811; PHP_C; 1.
Pfam; PF02281; PHP_N; 1.
SMART; SM00481; POLILIAC; 1.
TIGREAMs; TIGR00594; PolC; 1.
Transferase; DNA-directed DNA polymerase; DNA replication;
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85.7%;
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                                                                                                                                                                                                                                                   Score 28;
Pred. No.
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Kaneko T., Tanaka A., Sato S., Kotani H., Sazuka T., Miyajima N., Sugiura M., Tabbata S., "Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis sp. strain PCC6803. I. Sequence features in the 1 Mb region from map positions 64% to 92% of the genome.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Cyanobacteria; Chroococcales; Synechocystis TaxID=1148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=96127529;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                          Res. 2:153-166(1995).

COPACTOR: BINds 1 zinc ion per subunit (By similarity)
SUBCELLULAR LOCATION: Integral membrane protein (Poten
SIMILARITY: BELONGS TO PEPTIDASE FAMILY M50B.
SIMILARITY: Contains 2 CBS domains.
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(Rel. 35, Last sequence update)
(Rel. 41, Last annotation update)
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Matches 6
EMBL; AE000690; AAC06710.1; -.
PIR; F70339; F70339.
HSSP; P08859; IGLC.
HAMAP; MF_00186; --; 1.
InterPro; IPR005977; FGGY kin.
InterPro; IPR005999; Glycerol_kin.
Pfam; PF0370; FGGY; 1.
Pfam; PF03782; FGGY_C; 1.
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Deckert G.F., Warren P.V., Gaasterland T., Young W.G., Lenox A.L.,
Graham D.E., Overbeek R., Snead M.A., Keller M., Aujay M., Huber R.,
Feldman R.A., Short J.M., Olson G.J., Swanson R.V.;
"The complete genome of the hyperthermophilic bacterium Aquifex aeolicus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Aquifex aeolicus.
Bacteria, Aquificae,
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                                                                                                                                                                                                                                                                                                                                                      -!- FUNCTION: KEY ENZYME IN THE REGULATION OF GLYCEROL UPTAKE AND METABOLISM.
-!- CATALYTIC ACTIVITY: ATP + glycerol = ADP + glycerol 3-phosphate.
-!- PATHWAY: Glycerol utilization; rate-limiting step.
-!- SIMILARITY: BELONGS TO THE FUCOKINASE / GLUCONOKINASE / GLYCEROKINASE / XYLULOKINASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GLPK OR AQ_434.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Glycerol kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nature 392:353-358(1998).
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(Rel. 39, Last sequence update)
(Rel. 41, Last and anotation update)
lase (EC 2.7.1.30) (ATP:glycerol 3-phosphotransferase)
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; Pred. No. 59;
0; Mismatches
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NP_BIND 148

SEQUENCE 492 AA;
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Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
Schizosaccharomycetales; Schizosaccharomycetaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hypothetical SPAC3A12.15.
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PROSITE; PS00445; FGGY_KNASES 2;
PROSITE; PS00933; FGGY_KNASES 1;
Glycerol metabolism; Transferase; I
                                                      This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
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STRAIN=972;
    EMBL; Z95395; CAB08
PIR; T38683; T38683
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(Rel. 41, Last annotation
protein C3A12.15 in chrom
                        CAB08743.1;
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    Kinase; ATP-binding;

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RESULT RE
Adams M.D., Ceniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., Ceniker S.E., Holt R.A., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Holt R.A., W. Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M.A., Henderson S.M.,
RS Button G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X.,
RA Button G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X.,
RA Ballew R.M., Basu A., Baxendale J., Bayaktaroglu L., Beasley E.M.,
RA Ballew R.M., Basu A., Baxendale J., Bayaktaroglu L., Beasley E.M.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Borti J.F., Agbayani A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L. B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L. B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L. B., Davies P.,
RA Durbin K.J., Evrageglists C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA Durbin K.J., Evrageglists C.C., Ferraz C., Gebart W.M., Glasser K.,
RA Durbin K.J., Evrageglists C.C., Ferraz C., Gebart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Gebart W.M., Glasser K.,
RA Harris M.L., Harvey D., Heiman T.J., Hernander J.R., Houck J.,
RA Harris M.K., Hush F., Karpen G.H., Ke Z., Kannison J.A., Ketchum K.A.,
RA Harris M., Kalush F., Karpen G.H., Ke Z., Kannison J.A., Ketchum K.A.,
RA Harklov G., Milshina N.V., Mobarry C., Morris J., Mosinefi A.,
RA Mount S.M., Molson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Mount S.M., Molson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Nount S.M., Welson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Shue B G., Siden K.A., Nixon K., Sunders R., Cheeder F., Shen H.,
RA Shue B C., Siden K.A., Nixon K., Sunders R., Venter J., Shen H.,
RA Shue B C., Siden K.A., Nixon K., Sunders R., Venter J., Shen H.,
RA Sheng X.H., Rang G., Fan S., Palasco C., Zheng L.,
RA Wang Z.-Y. Wassarman D.A., Weitsenbach J.,
RA Sheng R.A., Sheng R., Rang G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
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16-OCT-2001
28-FEB-2003
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Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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Pfam; PF04100; Vps53 N; 1.
Hypothetical protein.
SEQUENCE 756 AA; 87505 M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=Berkeley;
MEDLINE=20196006; PubMed=10731132;
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CG9940.
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(Rel. 41, Last annotation update)
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Pred. No. 1.2e
1; Mismatches
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NP BIND
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IFR003694; NAD_synthase.
InterPro; IFR003010; Ntlse/CNhydtse.
pfam; PF00995; CN hydrolase; 1.
pfam; PF02540; NAD_synthase; 1.
TIGRPANS; TIGR00552; nadE; 1.
PROSITE; PS50263; CN HYDROLASE; 1.
Hypothetical protein; Ligase; NAD; ATP-binding.
DOMAIN

5 294
CN HYDROLASE.
Nierman W.C., Feidblyum T.V., Laub M.T., Paulsen I.T., Nelson Eisen J., Heidelberg J.F., Alley M.R.K., Ohta N., Maddock J.R., Potocka I., Nelson W.C., Newton A., Stephens C., Phadke N.D., DeBoy R.T., Dodson R.J., Durkin A.S., Gwinn M.L., Haft D.H., Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berry Utterback T., Tran K., Wolf A., Vemathevan J., Ermolaeva M., W Salzberg S.L., Venter J.C., Shapiro L., Fraser C.W.; "Complete genome sequence of Caulobacter crescentus."; proc. Natl. Acad. Sci. U.S.A. 98:4136-4141(2001).

11 THE REGULATION OF POLAR ORGANELLE DEVELOPMENT. PLEC PRO
                                                                                                                                                                                                                             STRAIN=ATCC 19089 / CB15;

MEDLINE=93133840; FubMed=8421698;

Wang S.P., Sharma P.L., Schoenlein P.V., Ely B.;

"A histidine protein kinase is involved in polar development in Caulobacter crescentus.";

Proc. Natl. Acad. Sci. U.S.A. 90:630-634 (1993).
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entities requires a license agreement (Stor send an email to license@isb-sib.ch).
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                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=ATCC 19089
                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. STRAIN=ATCC 19089
                                                                                                                                                                                                                                                                                                                                                Caulobacter crescentus.
Bacteria; Proteobacteria;
Caulobacteraceae; Cauloba
NCBI TaxID=155892;
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16-OCT-2001 (Rel. 40, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Non-motile and phage-resistance protein (EC 2.7.3.-).
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01-OCT-1994
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FlyBase; FBgn0030512; CG9940.
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-i- SIMILARITY: IN THE C-TERMINAL SECTION, BELC-
SYNTHETASE PARALLY.
-i- SIMILARITY: Contains 1 CN hydrolase domain.
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                                                                                                                                                                      PubMed=11259647;
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787 L
362 A
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66.7%;
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Pred. No. 1.3e+02;
1; Mismatches 2;
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BY SIMILARITY.
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M., White O.
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Search completed: January 29, 2004, 14:53:10 Job time : 6.82353 secs
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Best Local Similarity
Matches 6; Conserv
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InterPro; IPR00458; Bact sens pr_C.
InterPro; IPR003661; His kinh.
InterPro; IPR005667; His kinhse.
InterPro; IPR00514; PAS domain.
Pfam; PF00512; HATPase c; 1.
Pfam; PF00512; HATPASE c; 1.
                                                                                                                                                                                                                                Phosphory latton; Complete pp. 50
TRANSMEM 29 50
TRANSMEM 28 303
TRANSMEM 343 363
TRANSMEM 343 363
DOMAIN 318 389
DOMAIN 607 830
MOD RES 610 610
CONFLICT 744 744
SEQUENCE 842 AA; 89559 M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR00344; BCTRLSENSOR.
SMART; SM00387; HATPase c; 1.
SMART; SM000388; HASKA; 1.
SMART; SM00091; PAS; 2.
SMART; SM00091; PAS; 2.
TIGRERAMS; TIGR00229; sensory_box; 2.
PROSITE; PS50109; HIS_KIN; 1.
PROSITE; PS50109; HIS_KIN; 1.
PROSITE; PS50109; Transferase; Kinase; Transmembrane; Sensory transduction; Transferase; Kinase; Transmembrane;
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EMBL; AE005917; AAX24453.1; --.
PIR; A87557; A87557.
PIR; S27533; S27533.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUNCTIONS AS A MEMBRANE-ASSOCIATED PROTEIN KINASE THAT TRANSFERS PHOSPHATE TO A RESPONSE REGULATOR.

-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).

-!- PTM: THE C-TERMINAL IS CAPABLE OF AUTOPHOSPHORYLATION.

-!- SIMILARITY: Contains 1 histidine kinase domain.

-!- SIMILARITY: Contains 1 PAS (PER-ARNT-SIM) dimerization domain.
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22 AVNAPSQVF 30
                                                                                                               1 AVNAXSSLF 9
                                                                                                                                                         Conservative
                                                                                                                                                                                                                                    89559 MW;
                                                                                                                                                                         73.0%;
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HISTIDINE KINASE.
PHOSPHORYLATION (AUTO-) (BY SIMILARITY).
A -> V (IN REF. 1).
A -> CFF4F092DE2CBF8 CRC64;
                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
POTENTIAL.
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                                                                                                                                                       Score 27; DB 1; Length 842;
Pred. No. 1.4e+02;
1; Mismatches 2; Indels
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Perfect score:
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Q8ube6 agrobacteri
Q9ew96 strephylococ
Q92214 coprinus ci
Q9214 coprinus ci
Q91kk3 oryza sativ
Q92vu6 arabidopsis
Q94bs2 arabidopsis
Q94bs2 arabidopsis
Q94m2 arabidopsis
Q95c780 arabidopsis
Q9c780 arabidopsis
Q9at39 Gycine max
Q8gx26 arabidopsis
Q17484 plodia inte
                                                                                                                                                                                                               018227 caenorhabdi
Q9u275 caenorhabdi
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O18227; O1-JAN-1998 (TrEMBLrel. 0
01-JAN-1998 (TrEMBLrel. 0
01-MAR-2003 (TrEMBLrel. 2
Y57G11C. 1 protein.
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ALIGNMENTS

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investigating biology.";
Science 282:2012-2018(1998).
Science 282:2012-2018(1998).
-- SIMILARITY. BELONGS TO THE ABC TRANEMBL; Z99281; CAB16503.1; ...
EMBL; Z99281; CAB16503.1; ...
Wormpep; Y57G11C.1; CE14926.
InterPro; IPR003593; AAA ATPase.
InterPro; IPR003439; ABC_Transporter.
InterPro; IPR003439; ABC_Transporter.
                                                         Pfam; PF00664; ABC_membrane; 1.
Pfam; PF00005; ABC_tran; 1.
ProDom; PD000006; ABC_transporter
SMART; SM00382; AAA; 1.
PROSITE; PS00211; ABC_TRANSPORTER
ATP-binding; Transport;
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Rhabditidae; Peloderinae; Caenorhabditis.
MCBI TaxID=6239;
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MCMUITAY A.A.;
Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                                                                                                                                                                     "Genome sequence of the nematode C.elegans: A platform for
                                           71699 MW; 8807414AA9884058 CRC64;
  91.9%;
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Length 633;
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Similarity 77.8%; 7; Conservative

Pred. No. 17; L; Mismatches

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Science 282:2012-2018(1998).
-!- SIMILARITY: BELONGS TO THE ABC TRANS
EMBL, AL117200, CAB60586 1;
-Wormbep; Y5028A.16; CE24404.
InterPro; IPR003593; AAA, ATPase.
InterPro; IPR001140; ABC_TM_transpt.
InterPro; IPR003439; ABC_TM_transpt.
Pfam; PF00664; ABC_membrane; 1.
Pfam; PF00664; ABC_membrane; 1.
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Q9U275;
01-MAY-2000 (TrEMBL:
01-MAY-2000 (TrEMBL:
01-MAR-2003 (TrEMBL:
Y50E8A.16 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Probom; PD00000, ...; I.
SYMART; SM00382; AAA; I.
PROSITE; PS00211; ABC_TRANSPORTER; 1.
PROSITE; PS00211; ABC_TRANSPORTER; 1.
PROSITE; PS00210; ABC_TRANSPORTER; 1.
PROSITE; PS00210; ABC_TRANSPORTER; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
NCBI_TaxID=6239;
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                                                                                                                                                                                              Q8UBE6 PRELIMINARY; PRT; 441 AA.
Q8UBE6; Q1-UN-2002 (TrEMBLrel. 21, Created)
01-UN-2002 (TrEMBLrel. 21, Last sequence up
01-MAR-2003 (TrEMBLrel. 23, Last annotation
01-MAR-2003 (TrEMBLREL 23, Last annotation
N-carbamoyl-beta-alanine amidohydrolase.
AMAB OR ATU3070 OR AGR L 3478.
Agrobacterium tumefaciens (strain C58 / ATC)
Agrobacterium tumefaciens (strain C58 / ATC)
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  SEQUENCE FROM N.A.

MEDLINE=21608550; PubMed=11743193;

Wood D.W., Setubal J.C., Kaul R., i

Okura V.K., Zhou Y., Chen L., Wood
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                                                                                                                                                                           Agrobacterium tumefaciens (strain C58 / ATCC 33970)
Bacteria; Proteobacteria; Alphaproteobacteria; Rhiz
                                                                                                                     Rhizobiaceae; Rhizobium.
NCBI_TaxID=176299;
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  Monks D.E., Kitajima
d G.E., Almeida N.F. (
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XA Goodner B., Hinkle G., Gattung S., Miller N., Blanchard M.,
AA Qurollo B., Goldman B.S., Cao Y., Askenazi M., Halling C., Mullin L.,
AA Houmiel K., Gordon J., Vaudin M., Iartchouk O., Epp A., Liu F.,
AA Wollam C., Allinger M., Doughty D., Scott C., Lappas C., Markelz B.,
AA Flanagan C., Crowell C., Gurson J., Lomo C., Sear C., Strub G.,
AA Cielo C., Slater S.;
AC Cielo C., Slater S.;
Tegenome sequence of the plant pathogen and biotechnology agent
Agrobacterium tumefaciens C58.";
Science 294:2323-2328(2001).
T. Science 294:2323-2328(2001).
Science 294:2323-2328(2001).
Science 294:2323-2328(2001).
Science 394:2323-2328(2001).
Query Match
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01-MAR-2001
01-MAR-2003
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SEQUENCE FROM N.A.

MEDITINE=20547809; PubMed=11094342;

Aparicio J.F., Fouces R., Mendes M.V., Olivera N., Martin J.F.;

Aparicio J.F., Fouces R., Mendes M.V., Olivera N., Martin J.F.;

Aparicio J.F., Fouces R., Mendes M.V., Olivera N., Martin J.F.;

Paparicio J.F., Mendes M.V., Olivera N., Martin J.F.;

Paparicio J.F., Mendes M.V., Olivera N., Martin J.F.;

genes is involved in the biosynthesis of the 26-membered polyen genes is involved in the biosynthesis of the 26-membered polyen
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Bacteria; Actinobacteridae; Actinomycetales;
Streptomycinaee; Streptomycetaceae; Streptomyces.
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SEQUENCE FROM N.A.

C SPECIES=5.aureus (strain Mu50), and S.aureus (strain N315);

K MEDLINE=21311952; PubMed=11418146;

K WCDLINE=21311952; PubMed=11418146;

K Kuroda M., Ohta T., Uchlyama I., Baba T., Yuzawa H., Kobayashi I.,

A Cui L., Oguchi A., Aoki K.-I., Nagai Y., Lián J.-Q., Ito T.,

A Cui L., Oguchi A., Aoki K.-I., Nagai Y., Lián J.-Q., Ito T.,

A Kanamori M., Matsumaru H., Maruyama A., Murakami H., Hosoyama A.,

A Kanami-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito C.,

A Sekimizu K., Hirakawa H., Kuhara S., Goto S., Yabuzaki J.,

A Sekimizu K., Hirakawa H., Kuhara S., Goto S., Yabuzaki J.,

A Kanamisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., Shiba

A Hattori M., Ogasawara N., Hayashi H., Hiramatsu K.;

"Whole genome sequencing of meticillin-resistant Staphylococcus

T aureus "."
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O33586;
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O1-JAN-1998
O1-MAR-2002
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01-FEB-1997 (TrEMBI
01-MAR-2002 (TrEMBI
Galactose binding )
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Staphylococcus aureus (strain Mu50 / ATCC 700699)
Staphylococcus aureus (strain N315), and
Staphylococcus aureus.
Bacteria; Firmicutes; Bacillales; Staphylococcus.
NCBI_TaxID=158878, 158879, 1280;
[1]
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Q92214;
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EMBL; AP003782; AAB63265.1; -.

EMBL; AP003364; BAB58199.1; -.

EMBL; AP003135; BAB43124.1; -.
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SPECIES=S.aureus; STRAIN=SA502A;

MEDLINE=97342847; PubMed=9197262;

Ji G., Beavis R., Novick R.P.;

"Bacterial interference caused by autoinducing science 276:2027-2030(1997).
Lu B.C.;
"Fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGRD (AGRD protein).
AGRD OR SAV2037 OR SA1842.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                  Coprinus cinereus (Inky cap fungus).
Eukaryota; Fungi; Basidiomycota; Hym
                               Cooper D.N.W.,
Lu B.C.;
                                                                                                     SEQUENCE FRO
STRAIN=JR52;
                                                                                                                                                                                            Agaricales; Psat
NCBI_TaxID=5346;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ហ
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7; Conserve
          Galectins:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47 AA;
                                                                                                                                                                                                                                                                                                                                                                    (TrEMBLrel. 02)
(TrEMBLrel. 02)
(TrEMBLrel. 20)
inding lectin.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                         Boulianne R.P.,
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          Sequence
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Last sequence update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
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                                                                         Charlton S., Farrell E.,
          specificity
                                                                                                                                                                                                                                                                                                                                                                                                   sequence update) annotation updat
                                                                                                                                                                                                                                                                      Hymenomycetes; Homobasidiomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        150
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      O<sub>H</sub>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CRC64;
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             two
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  soyama A.,
Kaito C.,
                                                                            Sucher
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Best Local S
Matches 7
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Best Local
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Submitted (UUL-1996) to the EMBL/
EMBL; U64676; AAB06178.1; -.
InterPro; IPR001079; Galectin.
Pfam; PF00337; Gal-bind lectin; 1
SWART; SM00276; GLECT; 1.
                                                                                                                                                                                                                                                                                                                                                 Q9ZVU6
Q9ZVU6;
Q9ZVU6;
Q9ZVU6;
Q1-MAY-1999 (TEMBLrel. 10, C
Q1-MAY-1999 (TEMBLrel. 10, I
Q1-MAR-2002 (TEMBLrel. 20, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9LKK3 PRELIMINARY; PRT; 240 AA.
Q9LKK3; PREMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence up
01-OCT-2002 (TrEMBLrel. 22, Last annotation
Putative tyrosine phosphatase (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oryza sativa (Rice).
Eukaryota; Viridiplantae; Streptophyta; En
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN-jingxil7, and cv. Japonica; TISSUE=Shoot;
Yu F., Zhang A., Zhang F., Chen S.;
"Rice probable tyrosine phosphatase.";
Submitted (MAY-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Spermatophyta; Magnoliophyta;
Ehrhartoideae; Oryzeae; Oryza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                           Arabidopsis thaliana (Mouse-ear cress)
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; edicotyledoms; core ev
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gramene; Q9LKK3; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AF272978; AAF81798.1;
HSSP; Q12923; 3PDZ.
   Federspiel N.A., F
Altafi H., Araujo
                                                                                                                                                                                                                                                                                                  T5A14.12 protein.
T5A14.12.
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                                                                      SEQUENCE FROM N.A.
                                                                                                                            NCBI_TaxID=3702;
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InterPro; IPR001440; TPR.
PROSITE; PS50106; PDZ; 1.
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6; Conserv
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nilarity 77.8%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ΑA;
          Palm C.J., (o R., Huizar
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          Conway A.B.,
r L., Rowley
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                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
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a; Poales; Poaceae;
          D.,
             Conn L., Hansen
D., Buehler E., I
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RESULT 10
Q8L972
ID Q8L972
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Matches 6
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P Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Etgu P., Lee J.

A Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Etgu P., Lee J.

A Kim C., Lam B., Miranda M., Nguyen M., Palm C.J., Shinn P.,

A Kim C., Lam B., Miranda M., Nguyen M., Palm C.J., Shinn P.,

B Southwick A., Davis R.W., Ecker J.R., Theologis A.;

T "Arrabidopsis Open Reading Frame (ORF) Clones.";

T Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.

R EMBL; AY03926; AAK64030.1; -.

R EMBL; AY079359; AAK64030.1; -.

R InterPro; JPR001478, PDZ.

R InterPro; JPR001476, TPR.

R ROSSITE; PS50106; PDZ; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Chung M.K., Yamada K., Liu S.X., Goldsmith A.D., Jiang P.X., Lee J.M., Dale J.M., Gibson H.A., Goldsmith A.D., Jiang P.X., Lee J.M., Quach H.L., Tang C., Toriumi M., Yu G., Bowser L., Carninci P., Chen H., Cheuk R., Hayashizaki Y., Ishida J., Jones T., Kamiya A., Karlin Neumann G., Kawai J., Kim C., Koesema E., Lam B., Lin J., Meyers M.C., Miranda M., Narusaka M., Nguyen M., Palm C.J., Sakurai T., Satou M., Seki M., Shinnozaki K., Davis R.W., Ecker J.R., Theologis A., Shinozaki K., Davis R.W., Ecker J.R., Theologis A., "Full Length cDNA of gene TSA14.12 (GI:4204267).";

Submitted (JUN-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
19-pothetical 37.4 kDa protein.
15A14.12 OR ATIG55480.
Arabidopsis thallana (Mouse-ear cress).
Eukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; endicotyledons; core eudicots; Rosidae;
eurosids II, Brassicales; Brassicaceae; Arabidopsis.
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Luros S., Schwartz J., Shinn P., Toriumi M., Vysotskaia
Walker M., Yu G., Ecker J., Theologis A., Davis R.W.;
Submitted (JAN-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AC005223; AAD10648.1; -.
InterPro; IPR001478; PDZ.
InterPro; IPR001478; PDZ.
InterPro; IPR001440; TPR.
PROSITE; PS50106; PDZ; 1.
                                                                                                                                                                                                            Hypothetical protein. SEQUENCE 335 AA; 37410
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Pred. No. 74;
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01-OCT-2002 (
01-OCT-2002 (
01-MAR-2003 (
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermacophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid
eurosids II; Brassicales; Brassicaceae; Arabidopsis.

NCBI TaxID=3702;
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01-MAY-2000 (TrEMBLrel.
01-MAY-2000 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Full-Length cDNA from Arabidopsis thaliana.";
Submitted (MAR-2002) to the EMBL/GenBank/DDBJ |
EMBL; AY088606; AAM66135.1; -.
InterPro; IPR001478; PDZ; |
InterPro; IPR001440; TPR.
PROSITE; PS50106; PDZ; 1.
Hypothetical protein.
Hypothetical protein.
SEQUENCE 335 AA; 37456 MW; 1695924929A8F1B
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Haas B.J., Volfovsky N., Town C.D., Troukhan M., Aley
Feldmann K.A., Flavell R.B., White O., Salzberg S.L.;
"Full-length messenger RNA sequences greatly improve
annotation.";
Genome Biol. 0:0-0(2002).
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Arabidopsis thaliana (Mouse-ear
                                                                                                                                                                                    STRAIN=cv. Columbia;
Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haas B.,
Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haas B.,
Ronning C.M., Koo H., Fujii C.Y., Utterback T.R., Barnstead
Bowman C.L., White O., Nierman W.C., Fraser C.M.,
"Arabidopsis thaliana chromosome III BAC F978 genomic sequen
Submitted (JAN-2001) to the EMBL/GenBank/DDHJ databases.
EMBL; AC009991; AAF01509.1; --
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edons; core eudicots; Rosidae;
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RA Fartmann B., Valle G., Bloecker H., Perez-Alonso M., Obermaier B.,
RA Delseny M., Boutry M., Grivell L.A., Mache R., Puigdomenech P.,
RA Delseny M., Boutry M., Grivell L.A.,
RA Wincker P., Choisne N., Artiguenave F., Robert C., Brottier P.,
RA Wincker P., Cattolico L., Weissenbach J., Saurin W., Quetier F.,
RA Wincker P., Cattolico L., Weissenbach J., Saurin W., Quetier F.,
RA Winchach E., Drzonek H., Erfle H., Jordan N., Bangert S.,
RA Wiedelmann R., Kranz H., Voss H., Holland R., Brandt P., Nyakatura G.,
RA Wezzi A., Drzonek H., Erfle H., Jordan N., Bangert S.,
RA Vezzi A., Drzonek H., Erfle H., Jordan N., Bangert S.,
RA Reichelt J., Scharfe M., Schoen O., Bargues M., Terol J., Climent J.,
RA Reichelt J., Scharfe M., Schoen O., Bargues M., Terol J., Climent J.,
RA Rovarro P., Collado C., Perez-Perez A., Ottenwaelder B., Duchenin D.,
Cooke R., Laudie M., Berger-Llauro C., Purnelle B., Masuy D.,
RA Monfort A., Argiriou A., Flores M., Liguori R., Vitale D.,
RA Mannhaupt G., Haase D., Schoof H., Rudd S., Zaccaria P., Mewes H.-W.,
RA Mannhaupt G., Haase D., Schoof H., Rudd S., Zaccaria P., Wewes H.-W.,
RA Rooney T., Rizzo M., Walts A., Utterback T., Fujii C.Y., Shea T.P.,
RA Creasy T.H., Haas B., Maiti R., Wu D., Peterson J., Van Aken S.,
RA Praser C.M., Kaneko T., Nakamura Y., Sato S., Kato T., Asamizu E.,
RA Rigokawa C., Kohara M., Matsumoto M., Matsumo A., Muraki A.,
RA Niyokawa S., Nakazaki N., Shinpo S., Takeuchi C., Wada T.,
Fhaliana M., Vamada M., Yasuda M., Tabata S.,
Sequence and analysis of chromosome 3 of the plant Arabidopsis
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01-JUN-2001 (TrEMBLrel. 1
01-MAR-2003 (TrEMBLrel. 2
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01-JUN-2001
01-JUN-2001
Glycine max (Soybean).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;

Spermatophyta; Magnoliophyta; eudicotyledons; chaseoleae; Glycine.
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Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eddicotyledons; core eudicots; Rosidae;
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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EMBL; AC073395; AAG50971.1;
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Seki M., Iida K., Satou M., Sakurai T., Akiyama Seki M., Iida K., Satou M., Sakurai T., Akiyama Nakajima M., Enju A., Kamiya A., Narusaka M., Ca Hayashizaki Y., Shinozaki K.;
"Arabidopsis thaliana full-length cDNA.";
Submitted (NOV-2002) to the EMBL/GenBank/DDBJ da EMBL, AKI18481; BAC43085.1;
Hypothetical protein.
SEQUENCE 371 AA; 41708 MW; EAE35CC1DEB6321B
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Karakaya C.H., Knap H.;

Karakaya (FEB-2001) to the EN

EMBL; AF349572; AAX37555.1; -.

InterPro; IPR001440; TPR.

SEQUENCE 359 AA; 40243 MW;
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O17485;
O1-JAN-1998
O1-JAN-1998
O1-MAR-2003
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01-MAR-2003
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AT3G11150/F11B9 109.
Arabidopsis thaTiana (Mouse-ear cress).
Arabidopsis thaTiana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Epermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid.
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                    Aminopeptidase.
Plodia interpunctella (Indianmeal moth).
Plodia interpunctella (Indianmeal moth).
Eukaryota, Metazoa, Arthropoda, Hexapoda, Insecta, Pterygota,
Eukaryota, Endopterygota, Lepidoptera, Glossata, Ditrysia, Pyraloidea,
Pyralidae, Phycitinae, Plodia.
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[1]
STRAIN=HD198-R;
MEDLINE=20195127; PubMed=10732989;
Zhu Y.C., Kramer K.J., Oppert B., Dowdy A.K.;
"CDNAs of aminopeptidase-like protein genes from Plostrains with different susceptibilities to Bacillus
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a A., Narusaka M., Carninci P., Kaw
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DR EMBL; AF034484; AAC36147.1; -.

DR MERCOS; M01.013; -.

DR InterPro; IPR006025; Zn MTpeptdse.

DR InterPro; IPR006025; Zn MTpeptdse.

DR Pfam; PF01433; Peptidase M1; 1.

DR PRINTS; PR00756; ALADIPPASE.

DR PRINTS; PR00756; ALADIPPASE.

DR PROSITE; PS00142; ZINC_PROTEASE; 1.

SQ SEQUENCE 1016 AA; 115070 MW; C8D82D1FC582B33A CRC64;

SQ SEQUENCE 1016 AA; 115070 MW; C8D82D1FC582B3A CRC64;
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US-07-934-374-4
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US-09-339-511-4
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Best Local S
Matches
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Patent No. 6337385
GENERAL INFORMATION:
                                                   APPLICANT:
APPLICANT:
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9; Conserv
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Result No.

45	44	43	42	41	40	39	38	37	36	S	34	33	32	31	30	29	28
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US-07-955-905A-26	\rightarrow	PCT-US94-02252A-7	PCT-US94-01826A-7	US-08-486-414-7	US-08-479-869-7	US-08-477-459-7	US-08-484-575A-7	US-09-071-035-116	US-08-483-101-5	US-09-198-452A-702	US-09-215-418-5	US-09-106-872A-17	PCT-US93-08528-40	US-08-118-270-40	US-09-252-991A-18282	US-09-240-274-42	US-09-205-258-436
Sequence 26, Appl	equence 1	equence 7, Ap	equence 7,	Sequence 7, Appli	Sequence 7, Appli	equence 7, Appi	equence 7, Appi	equence	Appl	Ø	æ	e 17, App	Sequence 40, Appl	e 40,	1828	equence 42, App	ĺσ.

ALIGNMENTS

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APPLICANT: Mayville, Patricia
APPLICANT: Mayville, Patricia
APPLICANT: Mayville, Ronald
APPLICANT: No. 6337385ick, Richard P.
APPLICANT: No. 6337385ick, Richard P.
APPLICANT: Ji, Guangyong
ITIZ OF INVENTION: INTERFERENCE
FITIZ OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION UNUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION UNUMBER: 60/90,402
PRIOR EPILOMEDATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOSTWARE: Patentin Ver. 2.0
SOSTWARE: Patentin Ver. 2.0
SOSTWARE: PATENTIAL OF SEQUENCE
FEATURE: OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: Description of Artificial Sequence: Synthetic NAME/KEY: VARIANT
LOCATION: (5)
OTHER INFORMATION: Xan represents any amino acid at this position.
                                                                                                                    ; Sequence 1, Application US/09339511; Patent No. 6337385; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Xaa represents any amino acid
Muir, Tom
Mayville, Patricia
No. 6337385ick, Rici
Beavis, Ronald
Ji, Guangyong
                                                                                                                                                                                                                                                                                                                                                                                                    94.6%; Score 35; ilarity 100.0%; Pred. No. Conservative 0; Mismatch
                                                       Richard
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Query Match
Best Local Similarity
Thas 7; Conserve
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SEQ ID NO 3
LENGTH: 9
                                              CURRENT APPLICATION NUMBER: US/08/861,476C
CURRENT FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.0
SEQ ID NO 6
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APPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS
FILE REFERENCE: 63753/7
CURRENT APPLICATION NUMBER: US/08/861,476C
CURRENT FILING DATE: 1997-05-22
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Best Local
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                                                                                                                                                                                            Sequence 6, Application US/08861476C
Patent No. 6447786
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Patent No. 6447786
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CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 8
                                                                                                                                              APPLICANT: New York University Medical Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAMES/KEY: VARIANT LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
ORGANISM: Staphylococcus aureus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E REFERENCE: 600-1-
                                                                                                                                REFERENCE: 63753/7
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Pred. No. 2.5e
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Pred. No.
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; TYPE: PRT
; ORGANISM: Chlamydia pneumoniae
US-09-198-452A-760
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LENGTH: 426
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Best Local 9
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INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
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                                                                                                                        COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM CC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

CURRENT APPLICATION DATA:

100/17496.467
                           TELECOMMUNICATION INFORMATION:
TELEPHONE: 312 616-5400
                                                          ATTORNEY/AGENT INFORMATION: NAME: Gamson, Edward P.
                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                          CITY: Chicago
                                                                                                                                                                                                                                                                                       STREET:
                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                       PPLICATION NUMBER: USILING DATE: 19901012
LASSIFICATION: 800
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Application US/07596467
                                                                                                                                                                                                                                                        Illinois
                                                                                                                                                                                                                                                                                    E: Dressler, Go
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Pred. No. 1
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Higher Plants
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                                                                      US-07-783-861C-2
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Matches 6; Conservative
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Best Local
             Sequence 2, Application US/07783861C Patent No. 5460949
GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 4:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC compatible
COMPUTER: PC compatible
COMPENSITION SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/934,374
FILING DATE: 1920814
CLASSIFICATION: 800
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LENGTH: 1054 amino acids
TYPE: AMINO ACID
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TELEPHONE: 312 616-5400
TELEFAX: 312 616-5460
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Cuellar, R.
APPLICANT: Wolf, Fred R.
TITLE OF INVENTION: Process and Composition for Increasing
TITLE OF INVENTION: Sterol Accumulation in Higher Plants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Chappell, J.
APPLICANT: Saunders, Cou
APPLICANT: Cuellar, R.
APPLICANT: Wolf, Fred R.
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                  LENGTH: 1054 amino acids
TYPE: AMINO ACID
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les 6; Conserv
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ISTRATION NUMBER: 29,381
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180 N. Stetson St.
Saunders, Court A.
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75.0%;
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Pred. No. 3
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Pred. No. 3
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3.2e+02;
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/613,380
PILING DATE: 15-NOV-1990
ATTORNEY/AGENT INFORMATION:
NAME: GALLOWAY, NO. 5460949Vall B.
TELECOMMUNICATION INFORMATION:
TELEPAX: 312 856-7180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-339-511-5
                                                                                                            SEQ ID NO 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                           APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR PILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
                                                                TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 60680-0703

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: AMINO ACID TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 1054 amino aci
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: Chicago
STATE: Illinois
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Local Similarity 75.0%;
es 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      226 VNSASSLF 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5, Application US/09339511
5. 6337385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION
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                                                                                                                                                                                                                                                                                                                                                                                                                    Murr, Tom
Mayville, Patricia
No. 6337385ick, Richard P.
                                                                                                                                                                                                                                                                                                                                                                                           Beavis, Ronald
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200 East Randolph St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1054 amino acids
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Pred. No.
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; NAME/KEY: VARIANT ; LOCATION: (5)
COTHER INFORMATION: Xea represents any emino acid at this position. US-09-339-511-5
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US-09-339-511-6
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PI
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR PILING DATE: 1998-06-24
NUMBER OF SEO ID NOS: 8
NUMBER OF SEO ID NOS: 8
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Best Local
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APPLICANT:
APPLICANT:
                                                                                                                                               APPLICANT: Muir, Tom
APPLICANT: Mayville, Patricia
APPLICANT: No. 6337385ick, Richard
APPLICANT: Beavis, Ronald
             APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
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APPLICANT: Mayville, Patricia
APPLICANT: No. 63373851ck, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: VARIANT LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DRGANISM: Artificial Sequence
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7; Conserv
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SEQ ID NOS:
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PatentIn Ver. 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           75.7%;
87.5%;
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Pred. No.
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Pred. No. 2.5e+05;
1; Mismatches 0
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; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 23
; LENGTH: 518
; TYPE: PRT
; ORGANISM: SIV - viral
US-09-625-972-23
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Best Local Similarity bo...
6; Conservative
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APPLICANT: Marc J.
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Patent No. 6
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                                                                                                                                                                                                                                                                            Sequence 27566, Application US/09252991A Patent No. 6551795
                              APPLICANT: MARC J. Rubenfield et al.

APPLICANT: MARC J. Rubenfield et al.

TITLE OF INVENTION: NUCLEIC ACID AND ANINO ACID SEQUENCES RELATING INTEL OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPBUTICS

FILE REFERENCE: 107196.136

CURRENT FILING DATE: 1999-02-18

PRIOR APPLICATION NUMBER: US 60/074,788

PRIOR APPLICATION NUMBER: US 60/094,190

PRIOR APPLICATION NUMBER: US 60/094,190

PRIOR APPLICATION NUMBER: US 60/094,190

PRIOR APPLICATION SUMBER: US 60/094,190

PRIOR APPLICATION NUMBER: US 60/094,190

PRIOR APPLICATION SUMBER: US 60/094,190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: DE 199 36 003.0 PRIOR FILING DATE: 1999-08-03 NUMBER OF SEQ ID NOS: 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: GUERTLER, Lutz Gerhard
APPLICANT: HAUSER, Hans Peter
APPLICANT: DONGHO DELOXO, Yvette Beatrice
APPLICANT: ZEKENG, Leopold
APPLICANT: XAPFUE, Lazare
TITLE OF INVENTION: LENTIVIRUS FROM THE GROUP
TITLE OF INVENTION: (MANDRILLUS LEUCOPHAEUS)
FILE REFERENCE: 067555/0106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/625,972 CURRENT FILING DATE: 2000-07-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Artificial Sequence FEATURE:
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) NO 27566
TH: 762
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Pred. No. 3.9e
1; Mismatches
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Pred. No.
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; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-27566
                                                                                                                                                                                                                                                                                                                                                                          ; TYPE: amino acid
STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-477-451-12
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US-08-477-451-12
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Best Local S
Matches 5
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SEQUENCE CHARACTERISTICS:
LENGTH: 1720 aming
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Patent No. 5928865
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Best Local Similarity
Matches 6; Conserv
                                                                                                            Sequence 7, Application US/09339511
Patent No. 6337385
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/477,451
FILING DATE: 07-JUN-1995
CLASSIFICATION: 435
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MCClung, Barbara G.
REGISTRATION UNMBER: 33,113
REFERENCE/DOCKET NUMBER: 0335.002
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
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TITLE OF INVENTION: Helicobacter Pylori Cagi Region
NUMBER OF SEQUENCES: 46
CORRESPONDENCE ADDRESS:
ADDRESSEE: Chiron Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: USA
ZIP: 94608-2916
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                                                                                                                                                                                                                                         1664 INATQSLF 1671
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                INVENTION:
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Similarity 62.5%;
.5; Conservative
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                                            Mayville, Patricia
No. 6337385ick, Richard P.
Beavis, Ronald
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Guangyong
ION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
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Pred. No. 6e+0
0; Mismatches
                                                                                                                                                                                                                                                                                                           Score 27; DB 2; L. pred. No. 1.5e+03; 1; Mismatches 2;
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                                                                                                                               US-09-339-511-7
                                                                                                                                                                                                                                                                           SOFTWARE:
SEQ ID NO 7
LENGTH: 9
                                                              Matches
                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                          FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                           OTHER INFORMATION:
OTHER INFORMATION:
NAME/KEY: VARIANT
                                                                                                                                             OTHER INFORMATION: Xaa represents any amino acid at this position
                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                            FEATURE:
                                                    70.3%;
Local Similarity 87.5%;
hes 7; Conservative
2 VNAXSSAF 9
                               2 VNAXSSLF 9
                                                                                                                                                                                                                                                                                                              Patentin Ver. 2.0
                                                                                                                                                                                          Description peptide
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                                                             Score 26; DB 4; Pred. No. 2.5e+05; O; Mismatches 1
                                                                                                                                                                                                              of Artificial Sequence: Synthetic
                                                                                              Length 9;
                                                                Indels
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Search completed: January 29, 2004, 15:03:21 Job time : 11.1176 secs

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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                    Score
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seq length:
  of hits satisfying chosen parameters:
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Gapop 10.0 , Gapext 0.5
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Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   January 29, 2004, 14:47:39; Search time 25.5441 Seconds (without alignments) 73.223 Million cell updates/sec
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37
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Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                       /cgn2_6/btodata/1/pubpaa/US08_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09A_FUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09B_FUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09C_FUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09C_FUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10B_FUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10B_FUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_FUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_NEW_FUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_NEW_FUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_NEW_FUB.pep:*
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                                    US-10-032-950-4

US-10-369-493-6225

US-10-202-950-1

US-10-201-444-3

US-10-201-444-6

US-10-201-444-6

US-10-201-444-6

US-10-201-4419-13

US-10-154-419-13

US-10-154-419-13

US-10-100-303A-110

US-10-303-950-6

US-10-032-950-6

US-10-032-950-6
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US-10-078-929-136
US-10-369-493-14264
US-10-369-493-14770
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                                    Sequence
              Sequence
Sequence
                                    2, Appli
13, Appl
760, App
110, App
1849, Appli
6, Appli
6, Appli
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3, Appli
6, Appli
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6225, Ap
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US-10-032-950-4

GENERAL INFORMATION

APPLICANT: Muir, Tom APPLICANT: Mayville, Patricia APPLICANT: No. US20020077453Alick, Richard P. APPLICANT: Beavis, Ronald APPLICANT: Ji, Guangyong Sequence 4, Application US/10032950 Publication No. US20020077453A1

ALIGNMENTS

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                                                              Query Match
Best Local S
Matches
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 4
LENGTH: 9
                                                                                                                                               OTHER INFORMATION: Description of Artificial Sequ
OTHER INFORMATION: peptide
NAME/KEY: VARIANT
LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid
                                                                                                                                                                                                                                  LENGTH: 9
TYPE: PRI
ORGANIEN: Artificial Sequence
FEATURE:
                                                                Similarity 100 9; Conservative
                   AVNAXSSLF 9
AVNAXSSLF
                                                                                  94.6%;
                                                                0,
                                                                                  Score 35; pred. No.
                                                                                                                                                                                                                     of Artificial Sequence: Synthetic
                                                                    Mismatches
                                                                                  DB 13;
. 7e+05;
                                                                    0;
                                                                                                 Length 9;
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CT
                                                                    Indels
                                                                                                                                                     this position
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                                                                                                                                                              ; OTHER INFORMATION: Description of Artificial Sequence: Synthetic; OTHER INFORMATION: peptide; NAME/KEY: VARIANT; LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position US-10-032-950-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Soldman, Barry S.
APPLICANT: Chen, Xianfeng
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN TITLE REFERENCE: 38-10(5252)B
FILE REFERENCE: 38-10(5252)B
CURRENT APPLICATION NUMBER: US/10/369,493
CURRENT FILING DATE: 2003-02-28
PRIOR APPLICATION NUMBER: US 60/360,039
PRIOR FILING DATE: 2002-02-21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-369-493-6225
                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOPTWARE: Patentin Ver. 2.0
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 6225
LENGTH: 633
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                                                                                                        Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL TITLE OF INVENTION: INTERFRENCE FILE REPERENCE: 600-1-231N CURRENT APPLICATION NUMBER: US/10/032,950 CURRENT FILING DATE: 2001-12-27 CURRENT FILING DATE: 2001-12-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453Alick, Richard
APPLICANT: Beavis, Ronald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
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                                                                                                        Similarity
                                                 VNAXSSLF 9
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            VNAXSSLF
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                                                                                     83.8%; ilarity 100.0%; Conservative
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k; Pred. No. 7e+
0; Mismatches
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                                                                                                        DB 13;
7e+05;
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                                                                                                                            Length 9;
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; TYPE: PRT
; ORGANISM: Staphylococcus aureus
US-10-201-444-6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 6, Application US/10201444

Publication No. US20030078378A1

GENERAL INFORMATION:
APPLICANT: New York University Medical Center

TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS

FILE REFERENCE: 63753/7

CURRENT APPLICATION UNMERS: US/10/201,444

CURRENT FILING DATE: 2002-07-23

PRIOR APPLICATION UNMERS: US/08/861,476

PRIOR FILING DATE: 1997-05-22

NUMBER OF SED ID NOS: 8

SOFTWARE: Patentin version 3.0
Sequence 2, Application US/09919781
PATERIC NO. US20020123094A1
GENERAL INFORMATION:
APPLICANT: Curtis, Rory A.J.
TITLE OF INVENTION: 57250, A NOVEL HUMAN SUGAR TRANSPORTER
TITLE OF INVENTION: FAMILY MEMBER AND USES THEREOF
FILE REFERENCE: MNI-181
CURRENT APPLICATION NUMBER: US/09/919,781
CURRENT FILING DATE: 2001-07-31
PRIOR APPLICATION NUMBER: USSN 60/221,769
PRIOR FILING DATE: 2000-07-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 3, Application US/10201444
Publication No. US20030078378A1
GENERAL INFORMATION:
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Best Local
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TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN
FILE REFERENCE: 63753/7
CURRENT APPLICATION NUMBER: US/10/201,444
CURRENT FILING DATE: 2002-07-23
CRIOR FILING DATE: US/08/861,476
PRIOR FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                         81.1%;
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87.5%; Pred. No. 7e+
vative 0; Mismatches
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Pred. No.
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Sequence 760, Application US/10289762
Publication No. US20040006218A1
GENERAL INFORMATION:
APPLICANT: Griffais, R.
TITLE OF INVENTION: Chlamydia pneumoniae genomic sequence and polypeptides, fragments
TITLE OF INVENTION: thereof and uses thereof, in particular for the diagnosis, preve
TITLE OF INVENTION: and treatment of infection
FILE REFERENCE: 9710-003-99
CURRENT APPLICATION NUMBER: US/10/289,762
CURRENT FILING DATE: 2003-03-27
VIMBER OF SEQ ID NO 760
SEQ ID NO 760
SEQ ID NO 760
TYPE: PRT
CORANISM: Chlamydia pneumoniae
US-10-289-762-760
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-919-781-2
                                                                                                                                                                                                                                                                                                                                                                                      RESULT 8
US-10-289-762-760
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Best Local Similarity 77.8
Matches 7; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local :
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Curtis, Rory A.J.
APPLICANT: Glucksman, Maria Alexandra
APPLICANT: Meyers, Rachel E.
APPLICANT: Meyers, Rachel E.
APPLICANT: Meyers, Rachel E.
APPLICANT: Meyers, Rachel E.
TITLE OF INVENTION: 6705, 67118, 67067, 62092, 8099, 46455, 54414, 53763,
TITLE OF INVENTION: 67076, 67102, 44181, 67084FL, 67084ALT, FBH58295FL, 57255,
TITLE OF INVENTION: AND 57255alt MOLECULES AND USES THEREFOR
FILE REFERENCE: MNI-249
CURRENT APPLICATION NUMBER: US/10/154,419
CURRENT APPLICATION DATE: 2002-05-22
EVENT APPLICATION TEMOVED - Sealm of File Warmner
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENGTH: 572
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Local Similarity 77.8%;
Les 7; Conservative
Local Similarity 66.
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                  78.4%;
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77.8%;
1; Mismatches
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Pred. No. 1.5e+02;
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                  Score 29; DB 12;
Pred. No. 1.9e+02;
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                                     Length 426;
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Best Local
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RESULT 9
US-10-100-303A-110
                                                                                             WS-10-032-950-5
                                                                                                                                                                                                                                                                                                                         ORGANISM: Saccharomyces cerevisiae US-10-369-493-1849
Sequence 5, Application US/10032950 publication No. US20020077453A1 GENERAL INFORMATION: APPLICANT: Mutr. Tom APPLICANT: Mayville, Patricia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-369-493-1849
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CURRENT FILING DATE: US/10/100,303A
CURRENT FILING DATE: 2002-03-18
NUMBER OF SEQ ID NOS: 138
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 110
LENGTH: 605
TYPE: PRT
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APPLICANT: Caplan, et al.
APPLICANT: Caplan, et al.
TITLE OF INVENTION: to Allergy
TITLE OF INVENTION: to Allergy
                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Cao, Yongwei
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
APPLICANT: Chen, Xianifeng
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
TILE REPERENCE: 38-10(52052) B
CURRENT APPLICATION UNMERR: US/10/369,493
CURRENT FILING DATE: 2003-02-28
PRIOR APPLICATION UNMERR: US 60/360,039
PRIOR FILING DATE: 2003-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1849, Application US/10369493 Publication No. US20030233675Al GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 110, Application US/10100303A
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Local Similarity 75.0%;
nes 6; Conservative
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Pred. No. 2.
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OTHER INFORMATION: Description of Artificial Sequence: Synthetic; OTHER INFORMATION: peptide; NAME/KEY: VARIANT; LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position US-10-032-950-6
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Best Local S
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Muir, Tom
APPLICANT: Mayville, Fatricia
APPLICANT: No. US20020077453A1ick, Richard
APPLICANT: Beavis, Ronald
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PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn Ver: 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL TITLE OF INVENTION: INTERFERENCE FILE REFERENCE: 600-1-231N CURRENT APPLICATION NUMBER: US/10/032,950 CURRENT FILING DATE: 2001-12-27 CURRENT FILING DATE: 2001-12-27
                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position.
                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                    ORGANISM: Artificial Sequence FEATURE:
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87.5%;
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Pred. No.
                                                                                             Score 28; DB 13;
Pred. No. 7e+05;
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7e+05;
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SEQ ID NO 136
LENGTH: 78
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                                                                                                                                                                                                                                                                        Sequence 14264, Application US/10369493
Publication No. US20030233675A1
GENERAL INFORMATION:
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Best Local
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APPLICANT: Cao, Yongwei
APPLICANT: Hinkle, Gregory J.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
APPLICANT: Chen, Xianfeng
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
TILLE OF INVENTION NUMBER: US/10/369,493
CURRENT FILING DATE: 2003-02-28
PRIOR APPLICATION NUMBER: US 60/360,039
PRIOR APPLICATION DATE: 2003-02-29
PRIOR PRIOR DATE: 2002-02-21
PRIOR PRIOR DATE: 2002-02-21
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PRIOR FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 208
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PRIOR APPLICATION NUMBER: 09/566,394
PRIOR FILING DATE: 2000-05-05
PRIOR APPLICATION NUMBER: 60/133038
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PRIOR FILING DATE: 1999-05-11
PRIOR APPLICATION UNMBER: 60/133436
PRIOR FILING DATE: 1999-05-11
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PRIOR APPLICATION NUMBER: 60/133042
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FILING DATE: 1999-05-11
APPLICATION NUMBER: 60/133428
FILING DATE: 1999-05-11
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FILING DATE: 1999-05-11
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Thorpe, Catherine
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Odell, Joan
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b. US20020152497A1
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75.0%;
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Pred. No. 50;
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RESULT 15
US-10-369-493-14770
US-10-369-493-14770
Sequence 14770, Application US/10369493
Publication No. US20030233675A1
SEXERAL INFORMATION:
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
APPLICANT: Goldman, Barry S.
APPLICANT: Gregory J.
APPLICANT: Goldman, Barry S.
APPLICANT: Goldman, Barry S.
APPLICANT: Goldman, Barry S.
APPLICANT: WINTERSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10 (52052)B
CURRENT FILING DATE: 2003-02-28
PRIOR APPLICATION NUMBER: US/10/369,493
CURRENT FILING DATE: 2003-02-28
PRIOR APPLICATION SEQ ID NOS: 47374
SEQ ID NO 14770
LENGTH: 248
TYPE: PerT
Search completed: January 29, 2004, 15:01:45 Job time: 25.5441 secs
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                                                                                                                                                                                                                                                                                                                   ; TYPE: PRT ; ORGANISM: Agrobacterium tumefaciens US-10-369-493-14770
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; TYPE: PRT
; ORGANIAM: Agrobacterium tumefaciens
US-10-369-493-14264
                                                                                                                                                                                                         Query Match 75.7%; Score 28; DB 12; Length 248; Best Local Similarity 66.7%; Pred. No. 1.8e+02; Matches 6; Conservative 1; Mismatches 2; Indels
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113 AVNAKSAFF 121
                                                                                                          113 AVNAKSAFF 121
                                                                                                                                              1 AVNAXSSLF 9
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ALIGNMENTS

Staphylococcus aureus infection; cyclic peptide; AgrD; agr response; virulence factor; treatment. Staphylococcus aureus. aureus peptide #5 used for bacterial interference. (first entry) ROCKEFELLER. NEW YORK STATE 99WO-US14562 98US-0103438 5 /label= Unknown /note= "N-terminal residue forms
 residue to form a cyclic Location/Qualifiers bond with C-terminal peptide"

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Best Local
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The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of staphylococcus aureus. It is an AgrD-autoinducing peptide, where AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NH2-X(n)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Staphylococcus aureus infection; treatment; AgrD; agr response; virulence factor.
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          This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
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The present sequence is that of a protected peptide used in an example of the preparation of novel synthetic cyclic peptides of the invention (see AAM50899-906). The peptide corresponds to the Staphylococcus aureus AgrOII sequence with a Cys5 to Ser mutation (lactone). It was synthesised on a Wang-reain using an Fmoc N-alpha protection strategy. Following chain assembly, the peptide was cleaved from the support and the Ser-5 residue deprotected by treatment with a trifluoroacetic acid:misole:water mixture (90:5:5) for 4 hr. The partially protected peptide-alpha (90:5:5) for a transparent of dimethylaminopyridine. Cyclization was complete after 2 hr. The remaining protecting groups were then removed by treatment with HF and the peptide gurified by HPIC. The cyclic peptide is capable of inhibiting the agr response of Staphylococcus aureus. The thiolactone structure within native AgrD peptides is required for activation of this response. Replacement of the thiol ester component of the cyclic ring structure with a lactone (as in the present case) or a lactam can constructing inhibitory activity. The cyclic peptides are useful for infection
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(UYNY ) UNIV NEW YORK STATE.
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infection; therapy; cyclic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "note linked to residue 9 to form cyclic
    peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cyclic AgrD-autoinducing peptide for bacterial for treating Staphylococcus aureus infection is
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note=
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novick RP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in cyclic peptide production.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Ser(Bz1)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "note linked to residue 5 peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Ser(tBu)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Beavis R,
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Query Match Best Local Similarity

89.7%; 77.8%;

Score 35; Pred. No.

DB 23; 9.3e+05;

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Query Match Best Local (

Matches

l Similarity 7; Conserv 1 GVNAXASLF

Conservative

89.7%;

Score 35; DB 23; Pred. No. 9.3e+05; 1; Mismatches 1

Length 9;

Indels

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Gaps

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Sequence

9

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RESULT 7
AAMS102
ID AAMS
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                                                                                    thioster peptide. The peptide is derived from the cyclic AgrD2 linear thioster peptide. The peptide is derived from the cyclic AgrD2 agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrP3 containing a beta-lactamase reporter gene fused to the agrP3 response to be monitored spectrophotometrically. Unlike an AgrD2 thiololactone cyclic peptide (see AAMS1001), the present peptide was unable to either activate or inhibit the agr response to be dither activate or inhibit the agr response to be dither activate or inhibit the agr response to be dither activate or inhibit the agr response to be dither activate or inhibit the agr response, even when added to cultured cells at um concentrations. The invention when added to cultured cells at um concentrations. The invention and methods for preparing them. The cyclic peptides are useful for infection interference, especially for the treatment of S. aureus
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   Seguence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Muir TW,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 subject
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UYRQ ) UNIV ROCKEFELLER.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ij.
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AAM/SIOLT 8
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AAM/SIOLT 
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                                                                                                                     Matches
                                                                                                                                       Query Match
Best Local
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                                                                                                                                                                                                                              Sequence
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                                                                                                               Similarity 7; Conser
                                                       GVNAXASLF 9
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                                                                                                                  Conservative
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NEW YORK STATE.
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                                                                                                                                          89.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novick RP,
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                                                                                                               Score 35; DB
Pred. No. 9.3e
1; Mismatches
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                                                                                                                                       DB 23;
9.3e+05;
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RESULT 9
AAM51004
ID AAM5

AAM51004 standard; Peptide; 9

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RESULT

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                                                                                                   The present sequence is that of a novel synthetic AgrD2
lactone cyclic peptide in which residue 5 of the peptide is
linked to residue 9 via a lactone bond. The peptide is derived
from an AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is
a secreted agr-encoded peptide, where the agr locus controls the
synthesis of virulence factor and other extracellular proteins
responsible for pathogenicity in S. aureus. The biological
activity of the synthetic peptide was assayed using cultured S.
aureus strains containing a beta-lactamase reporter gene fused to
the agrP3 promoter. This allowed activation or inhibition of the
agr response to be monitored spectrophotometrically. The lactone
AgrD2 peptide inhibited the agr response of group I S. aureus
strains without activating the agr response in group; I, II or III
c strains. The invention provides claimed cyclic peptides (see
AMS0899-906 and AAMS0999) and methods for preparing them,
especially peptides where the cyclic bond is a lactam or lactone
bond. The cyclic peptides are useful for bacterial interference,
especially for the treatment of S. aureus infection.
                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UYRQ )
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                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                             Example 1; Column 9; 18pp; English.
                                                                                                                                                                                                                                                                                                                                                                                        subject
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UNIV NEW YORK STATE.
                          Similarity 7; Conserv
  GVNAXASLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mayville P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         response; inhibitor; antibiotic; antibacterial; therapy; lactone; cyclic.
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                            Conservative
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    peptide"
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                                                                                                                                                                                                                                                                                                                                                                                                   cyclic AgrD-autoinducing peptide for bacterial for treating Staphylococcus aureus infection in
                                       89.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "note linked to residue 9 to peptide"
                          Score 35; DB Pred. No. 9.3e
1; Mismatches
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Υ.
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                                                       DB 23;
                                      .3e+05;
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                                                     Length 9;
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RESULT 11
AAY67851
ID AAY67
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AC AAY67
XC AAY67
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DT 25-AI
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SCAPI
XX
SCAPI
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Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                         The invention relates to the use of autoinducer-2 (AI-2) agonists or antagonists for regulating activity of autoinducer-2 receptor, regulating bacterial growth and pathogenesis. Synergistic antibiotic compositions comprising inhibitors of the quorum-sensing pathway of a microorganism are also provided. Methods using such AI-2 analogues are useful for treating pathogen-associated disease states. The compounds and antibiotic compositions can be used to inhibit bacterial cell growth and/or biofilm formation on a medical device, particularly for promoting growth of skin graft replacements used in the treatment of burns and ulcers. They may also be used to aid wound repair, and to inhibit bacterial cell growth and biofilm formation in or on products or devices used for personal hygiene. The present sequence represents a inhibitor of peptide-mediated morrom sensing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Use of autoinducer-2 agonists or antagonists autoinducer-2 receptor, regulating bacterial also antibiotic compositions -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
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 Staphylococcus aureus infection; cyclic peptide; AgrD; agr response;
                             aureus peptide #1 used for bacterial interference.
                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bassler BL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UYPR-)
(QUOR-)
(UYTE-)
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07-DEC-2000; 2000US-254398P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10-MAY-2001; 2001WO-US15221
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vulnerary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Autoinducer-2; AI-2; antibiotic; antibacterial; dermatological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide-mediated quorum sensing inhibitor peptide cyclo-XII.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABB07160 standard; peptide; 9
                                                           25-APR-2000
                                                                                       AAY67851;
                                                                                                                AAY67851 standard; peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                   quorum sensing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Page 33; 134pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2002-075235/10
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7; Conserva
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QUOREX PHARM INC.
UNIV TECHNOLOGIES INT
                                                                                                                                                                                                                  GVNAXASLF 9
                                                                                                                                                                                       GVNASSSLF 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pheromone; agr system; accessory gene regulator; cyclic.
                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dammel CS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                     AA;
                                                          (first entry)
                                                                                                                                                                                                                                                            89.7%;
77.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Schauder S,
                                                                                                                                                                                                                                              Score 35; DB 23;
Pred. No. 9.3e+05;
1; Mismatches 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shokat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for regulating activity of growth and pathogenesis,
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                                                                                                                                                                                                                                                                        Length 9;
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RESULT 12
AAY67861
ID AAY67
XX AAY67
XX 25-AP
XX Staph
XX Wirul
XX Staph
XX Wirul
XX Wisc-
FT Misc-
FT Misc-
FT W0996
XX W0996
XX 29-DE
XX 24-JI
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                       This sequence represents a cyclic peptide derived from the Staphylococcus aureus AgrD peptide. The invention relates to AgrD derived peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Staphylococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         virulence factor; treatment
                                                                                                                                                     Staphylococcus aureus infection; AgrD; agr response; treatment; virulence factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 9; Page 26; 37pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New cyclic peptides for treating infections with Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-JUN-1999;
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  24-JUN-1999;
                         29-DEC-1999.
                                                                                                                            Staphylococcus aureus
                                                                                                                                                                                        Staphylococcus
                                                                                                                                                                                                                  25-APR-2000
                                                                                                                                                                                                                                          AAY67861;
                                                                                                                                                                                                                                                                   AAY67861 standard; peptide;
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                                                   WO9967286-A2
                                                                                         Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                 Similarity 88.9
8; Conservative
                                                                                                                                                                                                                                                                                                                                                        GVNAXASLF
                                                                                                                                                                                                                                                                                                                                GVNAXSSLF
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                                                                                                                                                                                                                                                                                                                                                                                                                                   9 AA;
                                                                                                                                                                                                                 (first entry)
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                                                                                                                                                                                           aureus
    99WO-US14562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= Unknown
                                                                            Location/Qualifiers
5
/label= Unknown
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                                                                                                                                                                                                                                                                                                                                                                                             87.2%;
                                                                                                                                                                                         AgrDII derived peptide sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novick RP,
                                                                                                                                                                                                                                                                                                                                                                                 Score 34; DB 21;
Pred. No. 9.3e+05;
1; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ji G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Beavis
                                                                                                                                                                                                                                                                                                                                                                                                         Length 9;
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RESULT 13
ABP53540
ID ABP53
XX ABP53
XX ABP53
XX ABP53
XX Cycli
XX
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Best Local S
Matches 8
                                                                                    (MUIR/) MUIR T W.
(MAYV/) MAYVILLE F
(NOVI/) NOVICK R F
(BEAV/) BEAVIS R.
(JIGG/) JI G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cyclic peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UYRQ )
    WPI; 2002-681366/73
                                                                                                                                                                                                                     24-JUN-1998;
24-JUN-1999;
                                                                                                                                                                                                                                                                                                                               20-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cyclic peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABP53540 standard; peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Examples;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-JUN-1998;
                                             Muir TW,
                                                                                                                                                                                                                                                                                   27-DEC-2001; 2001US-0032950
                                                                                                                                                                                                                                                                                                                                                                      US2002077453-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agr response
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GVNAXASLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                UNIV ROCKEFELI
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                                             Mayville P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 AA;
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NEW YORK STATE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             de; Staphylococcus aureus; infection; antibacterial;
inhibitor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO:1.
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99US-0339511
                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                               /note= "any amino acid"
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                                                Novick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    treating infections with Staphylococcus aureus
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Pred.
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                                                Beavis
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RESULT 14
AAM50899
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Best Local S
Matches
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                                                  Novel synthetic, interference and subject -
                                                                                                       Muir
                                                                                                                                                                                    08-JAN-2002.
                                                                                                                                                                                                      US6337385-B1
                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                                                                                                                             Synthetic
                                                                                                                                                                                                                                                                                                                                antibacterial;
                                                                                                                                                                                                                                                                                                                                        Staphylococcus
                                                                                                                                                                                                                                                                                                                                                        AgrD-autoinducing
                                                                                                                                                                                                                                                                                                                                                                           08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                            AAM50899;
                                                                                                                                                                                                                                                                                                                                                                                                             AAM50899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 9; Page 10; 18pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New cyclic peptides, useful infections -
                                 Claim 7;
                                                                                                                       (UYRQ )
                                                                                                                                                 24-JUN-1998;
                                                                                                                                                                  24-JUN-1999;
                                                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                            Key
                                                                                                      W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              as an agr gene response inhibitor. The peptides are ting S. aureus infections.
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8; Conserv
                                                                                                                        AIND
                                                                                                                                                                                                                                                                                                                                                                                                             standard; Peptide;
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                                  Column 19;
                                                                                                      Mayville P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                        ROCKEFELLER.
NEW YORK STATE.
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                                                                                                                                                 98US-090402P
                                                                                                                                                                                                                                                                                                                              aureus; AgrD; agr response; inhibitor; antibiotic;
infection; therapy; cyclic.
                                                                                                                                                                   9908-0339511
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                                                          cyclic AgrD-autoinducing peptide for treating Staphylococcus aureu
                                                                                                                                                                                                                                                           /note=
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                                                                                                                                                                                                                                                                                                                                                        cyclic peptide,
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                                 18pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    87.2%;
                                                                                                       Novick RP,
                                                                                                                                                                                                                      "note linked to residue peptide"
                                                                                                                                                                                                                                                "note linked to peptide"
                                                                                                                                                                                                                                                                          "any amino acid"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 34; DB 23;
Pred. No. 9.3e+05;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for treating Staphylococcus
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                                                                                                                                                                                                                                                                                                                                                          inhibitor
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                                                            ptide for bacterial aureus infection i
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                                                                                                                                                                                                                                                          cyclic
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The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response staphylococcus aureus. It is an AgrD-autoinducing peptide, when

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RESULT 15
AAM50908
ID AAM50
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infection; therapy; cyclic.
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The present sequence is that of a protected peptide used in an according to the preparation of novel synthetic cyclic peptides of the invention (see AAMS0899-906). The peptide corresponds to the Staphylococcus aureus AgrDII sequence with a Cys5 to diaminopropionic control (Dpr) mutation (lactam). It was synthesised on a Wang-resin cusing an Fmoc N-alpha protection strategy. Following chain assembly, the peptide was cleaved from the support and the Dpr-5 residue deprotected by treatment with a trifluoroacetic acid:anisole:water culture (90:5:5) for 4 hr. The partially protected peptide-alpha carboxylates were then dissolved in DMF and treated with PyBOP. Cyclization was complete after 2 hr. The remaining protecting groups cover removed by treatment with HF and the peptide purified by HDLC. The cyclic peptide is capable of inhibiting the agr response of Staphylococcus aureus. The thiolactone structure within native AgrD peptides is required for activation of this response. Replacement of the thiol ester component of the cyclic ring cstructure with a lactam (as in the present case) or a lactome can control of the treatment of the peptides are useful for enhancing inhibitory activity. The cyclic peptides are useful for lactorial interference, especially for the treatment of S. aureus
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Copyright (c) 1993 - 2004 Compugen Ltd.
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ALIGNMENTS

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Query Match 94.9%; Score 37; DB 1; Length 333; Best Local Similarity 88.9%; Fred. No. 0.52; Matches 8; Conservative 0; Mismatches 1; Indels 0; Gaps 0; Qy 1 GVNAXASLF 9 Db 99 GVNAGASLF 107	A; Molecule type: DNA A; Molecule type: LNA A; Residues: 1-333 «KUN» A; Residues: 1-333 «KUN» A; Cross-references: GB:Z99108; GB:AL009126; NID:g2633055; PIDN:CAB12580.1; PID:g26330 A; Experimental source: strain 168 C; Seperimental source: strain 168 C; Superfamily: ferrichrome ABC transporter C; Superfamily: ferrichrome ABC transporter	A;Authors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A. A;Title: The complete genome sequence of the Gram-positive bacterium Bacillus subtili A;Reference number: A69580; MUID:98044033; PMID:9384377 A;Accession: C69812 A;Status: preliminary; nucleic acid sequence not shown; translation not shown	y, M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portete Rieger, M.; Rivolta, C.; Rocha, B.; Roche, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanl A; Anthors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Se akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiya T.; Winters, P.; Wipat, A.; Yamamoto, H.; Yamame, K.; Yasumoto, K.; Yata, K.; Yoshida	Nature 390, 249-256, 1997 Nature 390, 249-256, 1997 A; Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Gal A; Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Gal iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardino A. Authors: Lapher T. Laparevic, V.; Lee S. M.; Levine, A.; Liu, H.; Masuda, S.; Mau	C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 16-Jun-2000 C;Accession: C69812 C;Accession: C59812 R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Ber C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari,	RESULT 1 CG9812 ferrichrome ABC transporter (permease) homolog yfmD - Bacillus subtilis CLSpecies: Bacillus subtilis

RESULT 2
(S8995)
AgrD protein [imported] - Staphylococcus aureus (strain N315)
AgrD protein [imported] - Staphylococcus aureus
(;Species: Staphylococcus aureus
(;Species: Staphylococcus aureus
(;Pate: 10.May-2001 #sequence_revision 10.May-2001 #text_change 22-Oct-2001
(;Pate: 10.May-2001 #sequence_revision 10.May-2001 #text_change 22-Oct-2001
(;Accession: C89995
R;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.;
R;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, C.; Sekimizu,
C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
Lancet 357, 1225-1240, 2001

A; Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus

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P2B/LAMP-1 precursor - mouse (house mouse)
(;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #eequence_revision 17-Apr-1993 #text_change 03-May-1996
C;Accession: A60534
R;Heffernan, M.; Yousefi, S.; Dennis, J.W.
Cancer Res. 49, 6077-6084, 1989
A;Title: Molecular characterization of P2B/LAMP-1, a major protein target of a metastasi A;Reference number: A60534; MUID:90002989; PMID:2676155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Reference number: A89758; MUID:21311952; PMID: A;Accession: C89995
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-47 <KUR>
A;Cross-references: GB:BA000018; PID:g13701831;
A;Experimental source: strain N315
C;Genetics:
A;Gene: agrD
RESULT
A30200
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J. Biol. Chem. 263, 8754-8758, 1988
A;Title: Isolation and sequencing of a cDNA clone encoding lysosomal membrane glycoprote A;Reference number: A28067; MUID:88243732; PMID:3379044
A;Accession: A28067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: mRNA
A;Residues: 1-382 <CHE>
A;Cross-references: GB:J03881; NID:g198706; PIDN:AAA39411.1; PID:g293692
A;Note: the authors translated the codon ATT for residue 1 as Leu and CCG for residue 2
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A; Residues: 1-405 < HEF >
C; Superfamily: lysosome
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A;Reference number: S74322; MUID:97061201; PM
A;Accession: S74439
A;Status: nucleic acid sequence not shown; tr.
A;Molecule type: DNA
A;Residues: 1-349 <KAN>
A;Cross-references: EMBL:D90899; GB:AB001339;
A;Note: the nucleotide sequence was submitted C;Genetics:
A;Genetics:
A;Gene: fecD
C;Superfamily: vitamin B12 transport protein C;Keywords: iron transport
                                                                                                                                                                                                                                                                                                                                                                                                                           iron(III) dicitrate transport system permease protein fecD - Synechocystis sp. (strai N;Alternate names: protein slr1317 C;Species: Synechocystis sp. 1, Variety: PCC 6803 C;Date: 25-Apr-1997 #text_change 20-Jun-2000 C;Date: 25-Apr-1997 #text_change 20-Jun-2000 C;Accession: S74439 R;Kaneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyajima, K.; Okumura, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yas DNA Res 3, 109-136, 1996 S.; Takeuchi, Change of the unicellular cyanobacterium Synechocys A;Title: Sequence analysis of the genome of the unicellular cyanobacterium Synechocys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:X14765; NID:g56577; PIDN:CAA32873.1; A;Note: part of this sequence, including the amino end of the C;Superfamily: lysosome-associated membrane protein C;Keywords: glycoprotein; membrane protein p;22-407/Product: lysosomal membrane glycoprotein, 107K #stati
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N;Alternate names: sialoglycoprotein
G;Species: Rattus norvegicus (Norway rat)
C;Date: 18-Oct-1989 #sequence_revision 30-Sep-1991 #text_change 20-Aug-1999
C;Accession: A30200; S03331
C;Accession: A30200; S03331
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A;Note: the authors translated the codon GGG for residue 15
R;Hhmeno, M; Nogucchi, Y.; Sasaki, H.; Tanaka, Y.; Furuno, F
FEBS Lett. 244, 351-356, 1989
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A;Accession: A30200
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A; Residues: 1-407 < HOW>
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A;Residues: 22-407 <HIM>
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: Derived protein sequence, oligosaccharides, and membrane insertion of
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Pred. No.
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Pred. No. 15;
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sta Library, June
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mature pro
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transposase alr8502 [imported] - Nostoc sp. (strain PCC 7120) plasmid pCC7120delta C;Species: Nostoc sp. PCC 7120  
A;Note: Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120  
C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002  
C;Accession: AC2563  
R;Kaneko, T; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, £ DNA Res. 8, 205-213, 2001  
A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Ana A;Accession: AC2563
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A;Experimental source: PCC 7120
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A;Molecule type: DNA
A;Residues: 1-188 <CAI>
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A;Title: Characterization of insertion sequence IS892 and related elements from the cyan
A;Reference number: A38116; MUID:91358369; PMID:1653218
A;Accession: B38116
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A;Molecule type: DNA
A;Residues: 1-188 <KUR>
A;Cross-references: GB:AP003604; PIDN:BAB77421.1; PID:g17134865; GSPDB:GN00183
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C;Species: Anabaena sp.
C;Date: 24-Jul-1992 #sequence_revision 24-Jul-1992 #text_change 24-Nov-1999
C;Accession: B38116
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A;Map position: 4
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A;Experimental source: clone T05E11
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A;Reference number: Z19903
A;Accession: T24523
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milarity 66.7%;
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Pred. No.
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Nol. Microbiol. 14, 557-569, 1994

A,Title: Identification of genes involved in the sequestration
A,Reference number: S60885; MUID:95191405; PMID:7885234
A,Racession: S60885
                                                                                                                                                                                                                                                                                 C;Accession: AD2478

R;Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Irigun Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata DNA Res. 8, 205-213, 2001

A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium A;Reference number: AB1807; MUID:21595285; PMID:11759840

A;Accession: AD2478
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A;Gene: alr8502
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                                                                                                                                                                                                 A;Molecule type: DNA
A;Residues: 1-247 <KUR>
A;Cross-references: GB:BA000020; PIDN:BAB78088.1; PID:g17135542; GSPDB:GN00180
A;Experimental source: strain PCC 7120
                                                                                                                                                                                                                                                                                                                                                                                                        transposase all7004 [imported] - Nostoc sp. (strain PCC 7120) plasmid pCC7120alp
C;Species: Nostoc sp. PCC 7120
A;Note: Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120
C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002
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A; Residues: 1-234 <FIS>
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C;Date: 27-Apr-1996 #sequence_revision
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C;Superfamily: Anabaena
                                                                                                                               C; Superfamily: Anabaena insertion sequence IS892 hypothetical protein
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GLSATASLF
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DNA Res. 8, 205-213, 2001
A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium An. A;Reference number: AB1807; MUID:21595285; PMID:11759840
A;Accession: AG2491
transposase all7375 [imported] - Nostoc sp. (strain PCC 7120) plasmid pCC7120aly (5pecies: Nostoc sp. PCC 7120 aly Note: Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120 c; Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002 c; Date: 14-Dec-201 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002 c; C; Accession: Ag5224 c; Note: Note of the control of the contr
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A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium An. A;Reference number: AB1807; MUID:21595285; FMID:11759840
A;Accession: AF2515
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Nakazaki, N.; Shimpo, S.; Sugimo
DNA Res. 8, 205-213, 2001
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[imported] - Nostoc sp. (strain PCC 7120) plasmid pCC7120al, C;Species: Nostoc sp. PCC 7120
A;Note: Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120
C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002
C;Accession: AF2515
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A;Molecule type: DNA
A;Residues: 1-247 <KUR>
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A;Molecule type: DNA
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Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, 
MA Res. 8, 205-213, 2001
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Search completed: January 29, Job time: 11.1176 secs

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A;Status: PILL LYPE: DNA
A;Molecule type: DNA
A;Residues: 1-247 <KUR>
A;Cross-references: GB:BA000020; PIDN:BAB78189.1;
A;Cross-references: GB:BA000020; PIDN:BAB78189.1;
                                                                                                                                                                                                                                                                                                                                                             R;Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Irign Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabat; DNA Res. 8, 205-213, 2001
A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium A;Reference number: AB1807; NUID:21595285; PMID:11759840
A;Accession: AI2490
                                                                                                                                                                  A;Gene: all7105
A;Genome: plasmid
C;Superfamily: Anabaena insertion sequence IS892 hypothetical protein
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C;Superfamily: Anabaena insertion sequence IS892 hypothetical
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A;Molecule type: DNA
A;Residues: 1-247 <KUR>
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A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium
A;Reference number: AB1807; MUID:21595285; PMID:11759840
A;Accession: AG2524
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DB seq length: 2000000000
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re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.

    protein search, using

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Maximum Match 100%
Listing first 45 summaries
   SwissProt_41:*
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   GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
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TRPF_SYNEL
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KASS ECOLI
REM9 HUMAN
LMP1 CRIGR
YBFS BACSU
SC24 YEAST
SFCO MOUSE
SPCO HUMAN
COMD METJA
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72.678 Million cell updates/sec
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P49049 caenorhabdi
P31494 yersinia en
Q9zfr9 yersinia pe
P52313 yersinia ps
P52313 yersinia ps
P16946 streptococc
C26043 helicobacte
P42218 escherichia
O43251 homo sapien
P49125 paracharomyc
C62261 mus musculu
C01082 homo sapien
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   5 paracoccus
3 chlamydia m
9 chlamydia t
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ALIGNMENTS

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IMP1 MOUSE STANDARD; PRT; 406 AA.

P14438; 052020;
01-0CT-1989 (Rel. 12, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Lysosome-associated membrane glycoprotein 1 precursor (LAMP-1) (LGP-A)
(LGP-120) (CD107A) (P2B).
                                                                                                                                                                                                    protein 1.";

J. Biol. Chem. 265:7419-7423(1990).

-i- FUNCTION: PRESENTS CARBOHYDRATE LIGANDS TO SELECTINS. ALSO
INFLICATED IN TUNOR CELL METASTASIS.

-i- SUBCELLULAR LOCATION: Type I membrane protein. Lygosomal.
THIS PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOSOMES, AND THIS
                                                                                                                                                                                                                                                                                                                                                                                                                     Chen J.W., Cha Y., Yuksel K.U., Gracy R.W., August J.T.;
"Isolation and sequencing of a cDNA clone encoding lysosomal membrane glooprotein mouse LAMP-1. Sequence similarity to proteins bearing onco-differentiation antigens.";
J. Biol. Chem. 263:8754-8758(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOUSE
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                         MEDLINE=80237040; PubMed=2332434;
Arterburn L.M., Earles B.J., August J.T.;
"The disulfide structure of mouse lysosome-associated membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
Heffernan M., Yousefi S., Dennis J.W.;
Submitted (FEB-1990) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Characterization and cloning of lgp110, glycoprotein from mouse and rat cells."; J. Biol. Chem. 265:12036-12043(1990).
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MEDLINE=90307738; PubMed=2142158;
Granger B.L., Green S.A., Gabel C.A.,
Helenius A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 25-406 FROM N.A., AND PARTIAL MEDLINE=88243732; PubMed=3379044;
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                                                                                            MEMBRANE
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Helenius A.,

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RESULT 2
LMP1_RAT
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Matches
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EMBL; M35244; AAA39865.1; -.
EMBL; J03881; AAA39411.1; -.
PIR; A28067; A28067
PIR; A60534; A60534.
MGD; MGI:96745; Lamp1.
InterPro; IPR002000; Lamp.
Pfam; Pf0129; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch).
                                                                                      IMP1 RAT STANDARD; PRT; 407 AA.

P14562; P97620;

01-JAN-1990 (Rel. 13, Created)

01-NOV-1990 (Rel. 13, Last sequence update)

01-NOV-1997 (Rel. 35, Last annotation update)

Lysosome-associated membrane glycoprotein 1 precursor (LAMP-1)

kDa lysosomal membrane glycoprotein) (LGP-120) (CD107A).

LAMP1 OR LAMP-1.
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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66.7%;
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Pred. No.
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CYTOPLASMIC (POTENTIAL).
FIRST LUMENAL DOMAIN.
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                            Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rattus
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EMBL; X14765; CAA32873.1; -.
EMBL; U75406; AAAB19108.1; -.
PIR; A30200; A30200.
InterPro; IPR002000; Lamp.
Pfam; PF01299; Lamp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Derived protein sequence, oligosaccharides, and membrane insertice of the 120-kDa lysosomal membrane glycoprotein (lgp120): identification of a highly conserved family of lysosomal membrane glycoproteins.";
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Sakaki Y., Kato K.,
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MEDLUENCE FROM N.A.
MEDLUNE=89017240; PubMed=3174652;
Howe C.L., Granger B.L., Hull M.,
                                DOMAIN
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PROSITE; PS00310; LAMP 1; 2.
PROSITE; PS00311; LAMP 2; 1.
Transmembrane; Glycoprotein; L
SIGMAL 1
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; PubMed=2920835;
hi Y., Sasaki H.,
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                (GLCNAC.)
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GLYCOPROTEIN

AND THE

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OCCORDEDITION

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ion update)
(Urea amidohydrolase)

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YV95_CABEL

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AC P49049;

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DT 01-FEB-1996 (

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P31494;
01-JUL-1993
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                                                                                                                                                                                                                                                                                                                                    Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                              Hypothetical T05E11.5.
                         YEREN
                                                                                                                                           InterPro; IPR006639; PSN. Pfam; PF04258; DUF435; 1. SMART; SM00730; PSN; 1.
                                                                                                                                                                             EMBL; Z68751;
PIR; T24523; T
                                                                                                                                                                                                                                                                                   Submitted
                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                             Hypothetical SEQUENCE 4
                                                                                                                                                                      PIR; T24523; T24523 WormPep; T05E11.5;
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                                                                                                                                                                                                                                                                                            Kershaw
                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                         shaw J.;
mitted (JAN-1996) to the EMBL/GenBank/DDBJ
SIMILARITY: TO YEAST YKL100C.
                                                          181
                                                                                         Similarity 7; Conserv
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(Rel. 26, Created)
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                                                                                                                             52793 MW;
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Last annotation update)
protein T05E11.5 in chromosome
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                                                                                            Score 31; DB 1;
Pred. No. 10;
Mismatches
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                                                                                                                             00DFFACB679AA5F8 CRC64;
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5.2;
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                                                                                                             Length 468;
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28-FEB-2003 (F
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STRAIN=A2635 / Ser
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    Similarity
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(Rel. 41,
la subunit
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140
221
276
276
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114
137
405
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Last annotation updat
(EC 3.5.1.5) (Urea ami
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"The putative arthritogenic cationic 19-kilodalton antigen of "The putative arthritogenic cationic 19-kilodalton antigen of Yersinia enterocolitica is a urease beta-subunit."; Infect. Immun. 61:2498-2504(1993).

-I- CARALYTIC ACTIVITY: Urea + H(2)O = CO(2) + 2 NH(3).

-I- COPACTOR: Binds 2 nickel ions per subunit (By similarity).

-I- SUBUNIT: (ALPHA, BETA, GAMMA)(3) (BY SIMILARITY).

-I- PTM: Ly6-221 is carbamylated. The carbamoyl group provides ligands for the two nickel ions (By similarity).

-I- SIMILARITY: BELONGS TO THE UREASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=A2635 / Serotype O:8;
MEDLINE=94320783; PubMed=8045421;
de Koning-Ward T.F., Ward A.C., Robins-Br
"Characterisation of the urease-encoding
enterocolitica.";
Gene 145:25-32(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a content of the Swiss Institute of Bioinformatics and the SWEL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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STRAIN=6471/76 / Serotype 0:3;
MEDLINE=93273501; PubMed=8500886;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bacteria; Proteobacteria; Gam
Enterobacteriaceae; Yersinia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEROPS; M38.UNW; -.
InterPro; IPR006680; Amidohydro_1.
InterPro; IPR005647; Urease.
InterPro; IPR005848; UreaseA.
Pfam; PF01979; Amidohydro_1; 1.
Pfam; PF00449; urease; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; 124101; AAA50996.1; -.
EMBL; Z18865; CAA79316.1; -.
PIR; S36028; S36028.
HSSP; P18314; 1FWF.
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76.9%;
                                                                      60952 MW;
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6 -> V (IN REF. 2)

7 -> V (IN REF. 2)

8 -> T (IN REF. 2)

9 -> V (IN REF. 2)

1 -> V (IN REF. 2)
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Pred.
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                         Length 571;
                                                                         CRC64;
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RESULT 5
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EMBL; AF095636; AAC78634.1; -.
EMBL; AJ414153; CAC92906.1; -.
EMBL; AE013727; AAM94814.1; ALT_INIT.
PIR; AC0325; AC0325.
HSSP; P18314; 1FWF.
InterPro; IPR006680; Amidohydro_1.
InterPro; IPR005847; Urease.
InterPro; IPR005848; UreaseA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Parkhill J., Wren B.W., Thomson N.R., Titball R.W., Holden M.T.G., Prentice M.B., Sebalhia M., James K.D., Churcher C., Wungall K.L., Baker S., Basham D., Bentley S.D., Brooks K., Cerdeno-Tarraga A.M., Chillingworth T., Cronin A., Davies R.M., Davis P., Dougan G., Feltwell T., Hamin N., Holroyd S., Jagels K., Karlyshev A.V., Leather S., Moule S., Oyston P.C.F., Quall M., Rutherford K., Simmonds M., Skelton J., Stevens K., Whitehead S., Barrell B.G., "Genome sequence of Yersinia pestis, the causative agent of plague."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=KIM5 / Biovar Mediaevalis;
STRAIN=2117863; PubMed=12142430;
Deng W., Burland V., Plunkett G. III, Boutin A., Mayhew G.F., Liss P.
Perna N.T., Rose D.J., Mau B., Zhou S., Schwartz D.C.,
Fetherston J.D., Lindler L.E., Brubaker R.R., Plano G.V.,
Straley S.C., McDonough K.A., Nilles M.L., Matson J.S., Blattner F.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=6/69M;
Sebbane F., Devalckenaere A., Simonet M.;
"Characterization of the urease locus from Yersinia pestis.";
Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
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OPERED:
OPERED:
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Urease alpha subunit (EC 3.5.1.5) (Urea amidohydrolase)
UREC OR YPO2667 OR Y1239.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N. STRAIN=CO-92 / B
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NCBI_TaxID=632;
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Bacteria; Proteobacteria; Gammaproteobacteria;
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MEDLINE=21470413; PubMed=11586360;
                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Matches
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HSSP; P18314; IFW?
MEROPS; M38 UNW; -.
InterPro; IPR006680; Amidohydro_1.
InterPro; IPR005847; Urease.
InterPro; IPR005848; UreaseA.
Pfam; PF01979; Amidohydro_1; 1.
Pfam; PF00449; urease; 1.
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01-OCT-1996
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               Hydrolase;
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                                                                   Pfam; PR00449; urease; 1.
PROSITE; PS00145; UREASE 2; 1.
PROSITE; PS01120; UREASE 1; 1.
Eydrolase; Metal-binding; Nickel.
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Pfam; PF00449; urease; 1.
PROSITE; PS010145; UREASE 2; 1.
PROSITE; PS01120; UREASE_1; 1.
Hydrolase; Metal-binding; Nickel; C.
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METAL 138 138 NICKEL
                                                                                                                                                                                                                                  use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                            This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restitute by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yersinia pseudotuberculosis.
Bacteria; Proteobacteria; Gammaproteobacteria;
Fmrerobacteriaceae; Yersinia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=97270511; PubMed=912
Riot B., Berche P., Simonet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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571 AA;
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(Rel. 34,
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Last annotation updat
(EC 3.5.1.5) (Urea ami
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
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Matches 6
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01-UN-1994 (Rel. 29, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Prostaglandin E2 receptor, EP4 subtype (Prostanoid receptor, EP4 subtype).
PTGER4 OR PTGER2.
Homo sarian
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HUMAN
                                                                                                                                                                                                                                                                                                                            TISSUE=Lung;
MEDLINE=94071953; PubMed=8250933;
An S., Yang J., Xia M., Goetzl E.J.
Cloning and expression of the EP2
prostaglandin E2.";
Biochem. Biophys. Res. Commun. 197:
                                                                                                                                                                                                                                                                                                                                                                                                                              prostaglandin E2 receptor EP2 subtype.";
J. Biol. Chem. 269:11873-11877(1994).
phorbol ester.";

J. Mol. Med. 74:333-336(1996).

J. Mol. Med. 74:333-336(1996).

J. Wol. Med. 74:333-336(1996).

THIS RECEPTOR FOR PROSTAGLANDIN E2 (PGE2). THE ALTER OF STATE BY G-S PROTEINS THAT STIMULADENYLATE CYCLASE. HAS A RELAXING EFFECT ON SMOOTH MUDELAY AN IMPORTANT ROLE IN REGULATING REMAL HEMODYNAMIL INTESTINAL EPITHELIAL TRANSPORT, ADRENAL ALDOSTERONE INTESTINAL FUNCTION.

AND UTERINE FUNCTION.

J. SUBCELLULAR LOCATION: Integral membrane protein.

TISSUE SPECIFICITY: HIGH IN INTESTINE AND IN PERIPHER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                        MEDLINE=97015877; PubMed=8862514; Mori K., Tanaka I., Kotani M., Miyaoka Sasaki Y., Nakagawa O., Ogawa Y., Usui Narumiya S., Nakao K.; "Gene expression of the human prostagla differential regulation in monocytoid a
                                                                                                                                                                                                                                         Genomics
                                                                                                                                                                                                                                                     pseudogenes.
                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Cloning,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=94216291; PubMed=8163486;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (Human)
                                                                                                                                                                                                                 SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       L., Sawyer N., Grygorczyk R., Metters K.M., Adam M.; g, functional expression, and characterization of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GVNAXASLF
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B., Stolz M., B
the prostagland
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                                                                                                                         human prostaglandin E receptor EP4 subtype: in monocytoid and lymphoid lineage cells by
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Catarrhini;
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i; Hominidae; Homo.
                                                                                                                                                                                                                                                                 r E., Fraser N.J., receptor gene and
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Ozaki
                                                  (PGE2). THE ACTIVITY OF STRAIT STIMULATES IT ON SMOOTH MUSCLE, MAY VAL HEMODYNAMICS,
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    PERIPHERAL BLOOK
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Ichikawa
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RESULT 8

UZIP DROME

ID UZIP DROME

STANDARD; PRT; 4

P10379; Q960B4; Q9W0W7;

DT 01-MAR-1999 (Rel. 10, Created)

DT 15-SEP-2003 (Rel. 42, Last sequence up

DT 15-SEP-2003 (Rel. 42, Last annotation

DE Unzipped protein precursor (Zipper pro
GN UZIP OR ZIP OR CG3533.

OS Drosophila melanogaster (Fruit fly).

OC Eukaryota; Metazoa; Arthropoda; Hexapo
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InterPro; IPROUUZ..;
Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GFCRRHODDEN.
PROSITE; PS00237; G-PROTEIN_RECEP_F1_2; 1.
R PROSITE; PS00262; G-PROTEIN_RECEP_F1_2; 1.
R PROSITE; PS0
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Best Local
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GO; GO:0016021; C:integral to membrane; TAS.
GO; GO:0004957; F:prostaglandin E receptor a
GO; GO:0007188; P:G-protein signaling, coupl
GO; GO:0006955; P:immune response; TAS.
Interpro; IPRO00276; GPCR_Rhodpsn.
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EMBL; L25124; AAA36438.1; --
EMBL; X97873; CAA66463.1; --
EMBL; X97874; CAA66463.1; JO:
EMBL; D28472; BAA05834.1; --
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CONFLICT
SEQUENCE
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SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RISINILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RISINILARITY BELONGS
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w; HGNC:9596; P7
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CYTOPLASMIC (
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GPA -> WAC (IN REF. 2).
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(See http://www.isb-sib.ch/announce/
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Hexapoda;

Pterygota;

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RX MEDILIPE 2019606; PubMed=10731132;
RA Adams M.D. (Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., (Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Amanatides P.G., Scheerer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA Amanatides P.G., Scheerer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA Ballow R.A., Lewis S.E., Richards S.A., Ashburner M., Henderson S.N.,
RA Bardon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Barlow R.M., Doyle C., Baxter E.G., Helt G., Walson C.R., Miklos G.L.G.,
RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,
RA Ballew R.M., Basu A., Baxendale J., Bhandari D., Beldwin D.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Belshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottster P.,
RA Burtis K.C., Basm D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport I.B., Davies P.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottster P.,
RA Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Moshrefi A., Walssenn D.L.,
RA Merkulov G., Milshina N.V., Moshrefi A., Walssenn D.R., Paleb J.M.,
RA Merkulov G., Sender S., Sender S., Shen H.,
RA Mang Z.Y., Wassarman D.A., Walisson D., Walley S., S
[4]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-Berkeley; TISSUE-Embryo;
MEDLINE-22426066; PubMed-12537569;
MEDLINE-2242606; PubMed-12537569;
MEDLINE-2242606; PubMed-12537569;
MEDLINE-22426066; PubMed-12537669;
MEDLINE-22426066; PubMed-12537669;
MEDLINE-22426066; PubMed-12537669;
MEDLINE-22426066; PubMed-1256066; PubMed-12560669;
MEDLINE-22426066; PubMed-12560669; PubMed-1256069; PubMed-1256069; P
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Zhao D.-B., Code S., Jaehnig F., Haller J., Jaeckle H.;
"Zipper encodes a putative integral membrane protein required
normal axon patterning during Drosophila neurogenesis.";
EMBO J. 7:1115-1119(1988).
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Ephydroidea; Drosophilidae;
NCBI_TaxID=7227;
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Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Hradecky P., Huang Y., Kaminker J.S., Milburn G.H., Prochnik S.E.,
Smith C.D., Tupy J.L., Whitfield E.J., Bayraktaroglu L., Berman B.P.,
Bettencourt B.R., Ceiniker S.E., de Grey A.D.N.J., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
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ae; Drosophila.
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                                                                                                                                    Park S., Wan K.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   genome:
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CONFLICT
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Genome Biol. 3:RESEARCH0080.1-RESEARCH0080.8 (2002)
-i- FUNCTION: Required for normal axon patterning
-i- SUBCELLULAR LOCATION: Type I membrane protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALF FLAFA STANDARD; P14223; P14223; O1-JAN-1990 (Rel. 13, Created) O1-JAN-1990 (Rel. 13, Last seques Fructose-bisphosphate aldolase
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DOMAIN
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EMBL; AE003465;
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                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

MEDLINE=90116715; PubMed=2693962;

Knapp B., Hundt E., Kuepper H.A.;

"A new blood stage antigen of Plasmodium
the erythrocyte surface.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
MEDIINE=98190013; PubMed=9521758; Kim H., Certa U., Dobeli H., Jakob P., Hol W.G.c "Crystal structure of fructose-1,6-bisphosphate human malaria parasite Plasmodium falciparum."; Biochemistry 37:4388-4396(1998).
                                                                                                                                                                                                                                                           the erythrocyte surface. Mol. Biochem. Parasitol.
                                                                                                                                                                                                                                                                                                                                                                                                                  Plasmodium falciparum.
Eukaryota, Alveolata;
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                                                                                                                                      MDDLINE=90271928; PubMed=2190085;
Knapp B., Hundt E., Kuepper H.A.;
Knapp B., Hundt E., Kuepper H.A.;
energiasmodium falciparum.aldolase; gene
Mol. Biochem. Parasitol. 40:1-12(1990)
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                                                                                            X-RAY
                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=5833;
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65; AAF47312.2; -
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                                                                                                                                                            structure and localization.";
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DR EMBL; M28881; AAA29473.1; -.

DR EMBL; A13461; CAAO1107.1; -.

DR EMBL; A13461; CAAO1107.1; -.

DR EMBL; A13481; CAAO1117.1; -.

DR PIR; A44942; A44942.

PIB; 1A46942; A44942.

PIB; 1A46942; A14942.

PIB; A46942; A14942.

PIB; A1601ASE_I.

PROSITE; PS001128; A1601ASE_I; 1.

PROSITE; PS001128; A1601ASE_I; 1.

PROSITE; PS001128; A1601ASE_I; 1.

PROSITE; PS00115; A1601ASE_I; 1.

PROSITE; PS0015; A1601ASE_I; 1.

PROSITE; A1601ASE_I; 1.

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                                                                        PIR; B43715; B43715.

InterPro; IPR005877; Gpos_vSIRK.

InterPro; IPR001899; Gram_pos_anchor.

InterPro; IPR001899; LPXTG.

InterPro; IPR006192; LPXTG.

InterPro; IPR006192; LPXTG.

InterPro; IPR003145; M_repeat.

Pfam; PF00746; Gram_pos_anchor; 1.

Pfam; PF00370; M; 7.

Pfam; PF00370; M; 7.

Pfam; PF04650; YSIRK signal; 1.

PFNNTS; PR000115; GPD5ANCHOR:

ITGRPAMS; TIGR01167; LPXTG_anchor; 1.

PROSITE; PS50847; GRAM_POS_ANCHORING; 1.

PROSITE; PS50847; GRAM_POS_ANCHORING; 1.

Virulence; Phagocytosis; Cell wall; Pep

Antigen; Coiled coil; Signal.
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P16946;
    Antigen;
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STRAIN-Serotype M49;
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NCBI_TaxID=1314;
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VIRULENCE FACTOR-RELATED M PROT REMOVED BY SORTASE (POTENTIAL). 2 X REPEATS, TYPE A. A-1.

PROTEIN

3; 1. Peptidoglycan-anchor; Repeat;

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                                                                                                                                                                                                                                                                  Haanes E.J., Cleary P.P.;
"Identification of a divergent M protein gene and an M protein-rel
gene family in Streptococcus pyogenes serotype 49.";
J. Bacteriol. 171:6397-6408(1989).
-i- SUBCELLULAR LOCATION: Attached to the cell wall peptidoglycan
an anide bond (Potential).
-i- SIMILARITY: BELONGS TO THE M PROTEIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-AUG-1990 (Rel. 15, Creat
01-AUG-1990 (Rel. 15, Last
28-FEB-2003 (Rel. 41, Last
Virulence factor-related M
EMBL; M23689; AAA26919.1; -.
EMBL; M31790; AAA26875.1; -.
PIR; B43715; B43715.
                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=90078078; PubMed=2687231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Streptococcus pyogenes.
Bacteria; Firmicutes; Lactobacillales; Streptococcaceae;
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annotation update)
protein precursor.
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; Pred. No. 43;
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               update)
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                                                                                                                  oved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
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MEDLINE-97394467; PubMed-9252185;

Tomb J.-F., White O., Kerlavage A.R., Clayton R.A., Sutton G.G.,

Fleischmann R.D., Ketchum K.A., Klenk H.-P., Gill S., Dougherty B.A.

Relson K., Quackenbush J., Zhou L., Kirkness E.F., Peterson S.,

Nelson K., Glodek A.,

Nelson K., FitzGerald L.M., Lee N., Adams M.D., Hickey E.K.,

McKenney K., FitzGerald L.M., Lee N., Peterson J.D., Kelley J.M.

Berg D.E., Gocayne J.D., Utterback T.R., Peterson J.D., Kelley J.M.

Cotton M.D., Weidman J.M., Fujil C., Bowman C., Watthey L., Wallin J.

Venter J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O26043;
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16-OCT-2001
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                                                                                                                                                             the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See lor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pylori.";
Nature 388:539-547(1997).
Nature 388:539-547(1997).
-!- FUNCTION: Converts seryl-tRNA(Sec UCA) to selenocysteinyl-tRNA(Sec -!- FUNCTION: Converts seryl-tRNA(Sec UCA) to selenocysteinyl-tRNA(Sec UCA) to selenocysteinyl-trN
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16-OCT-2001 (Rel. 40, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
L-seryl-tRNA(Sec) selenium transferase (EC 2.9.1.1) (Cysteinyl-tRNA(Sec) selenium transferase) (Selenocysteinyl-tRNA(Sec) selenium transferase) (Selenocysteinyl-tRNA(Sec) synthase)
(Selenocysteinyl-tRNA(Sec) synthase).
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                                                EMBL; AE000649; AAD08554.1; PIR; A64709; A64709.
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between the Swiss Institute of Bioinformatics and the EMBD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Helicobacter pylori (Campylobacter
Bacteria; Proteobacteria; Epsilonpı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "The complete genome sequence of the gastric pathogen Helicobacter
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  UCA) during selenoprotein biosynthesis (By similarity). CAPALYTIC ACTIVITY: L-seryl-tRNA(Sec) + selenophosphate selenocysteinyl-tRNA(Sec) + H(2) 0 + poh-sphate. COPACTOR: Pyridoxal phosphate (By similarity). SUBCELLULAR LOCATION: Cytoplasmic (By similarity). SIMILARITY: BELONGS TO THE SELA FAMILY.
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3 X REPEATS, TYPE C.
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C-2.
C-3.
GLY/PRO-RICH (CELL WALL-SPANNING).
LPXTG SORTING SIGNAL (POTENTIAL).
AMIDE-LINKED TO CELL WALL (POTENTIAL)
MW; 4AD6D5A72F637839 CRC64;
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Pred. No. 43;
); Mismatches
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Best Local S
Matches 5
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Matches
HUMAN STANDARD; PRT; 390 AA.

RBM9 HUMAN STANDARD; Q96DZ6; Q96NL7; Q9UGW4; Q9U
16-OCT 2001 (Rel. 40, Created)
15-SEP-2003 (Rel. 42, Last sequence update)
15-SEP-2003 (Rel. 42, Last sequence update)
RNA-binding protein 9 (RNA binding motif protein 9
(Hexaribonuclectide binding protein 2) (Repressor transcriptional activity).
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P42218;
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InterPro; IPR004534; SelA.
Pfam; PF03841; SelA; 1.
Transferase; Pyridoxal phosphate; Selenium; Complete proteome.
Transferase; Pyridoxal prosphate; Selenium; Complete proteome.
BINDING 221 221 PYRIDOXAL PHOSPHATE (BY SINILARITY)
BINDING 221 221 PRIDOXAL PHOSPHATE (BY SINILARITY)
BACIDE6B50F3E859 CRC64;
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01-NOV-1995
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X74567; CAA52659.1; -.
PIR; 836653; 836653.
Pfam; PF05159; Capsule_synth; 1.
Polysaccharide transport; Transport.
Polysaccharide transport; 73058122C28027DE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Molecular analysis of region 1 of the Esgene cluster: a region encoding proteins expression of capsular polysaccharide.";
J. Bacteriol. 175:5978-5983(1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Roberts I.S.;
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Enterobacteriaceae; Esche
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(Rel. 32, Last sequence update)
(Rel. 32, Last annotation updat
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Rosenow C., Boulnois G.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  coli.
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Escherichia.
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Pred. No. 45;
2; Mismatches
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Pred. No. 45;
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1;
45;
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ns involved in cell :
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RX MEDILIES 20057165; PubMedel0591208;
RX MEDILIES 20057165; PubMedel0591208;
RA Clamp M., Smink L.J., Ainscough R., Almeida J.P., Babbage A.K.,
RA Elamp M., Smink L.J., Ainscough R., Almeida J.P., Babbage A.K.,
RA Baggiley C., Baikey J., Barlow K.F., Bates K.N., Beasley O.P.,
RA Burrill W.D., Button J., Carder C., Carter N.P., Chen Y., Clark G.,
RA CORCY D., Corby N.R., Cole C.G., Collier R.E., Connor R.,
RA CORCY D., Corby N.R., Coville G.J., Cox A.V., Davis J., Dawson E.,
RA CORCY D., Corby N.R., Coville G.J., Cox A.V., Davis J., Dawson E.,
RA Hall R.E., Hall-Tamlyn G., Heathcott R.W., Ho S., Holnes S.,
RA Hall R.E., Jones M.C., Kershaw J., Kimberley A.M., King A.,
RA Hall R.E., Jones M.C., Kershaw J., Kimberley A.M., King A.,
RA Martyn I.D., Mashreghi-Mohammadi M., Matthews L.H., Mccann O.T.,
RA Martyn I.D., Mashreghi-Mohammadi M., Matthews L.H., Mccann O.T.,
RA McClay J., McLaren S., McMurray A.A., Milne S.A., Mortimore B.J.,
Coell C.N., Pavitt R., Pearce A.V., Pearson D., Phillimore B.J.,
RA Hilligs S.H., Plumb R.W., Ramesy H., Ramesy Y., Rogers J., Swann R.M.,
RA Wight C.L., Hubbard T. Bentley D.R., Beck S., Rogers J., Swann R.M.,
RA Wight C.J., Hubbard T. Bentley D.R., Beck S., Rogers J., Shimizu N.,
RA Schert R., Shibuya K., Yoshizaki Y., Aoki N., Mitsuyama S.,
RA Minoshima S., Kawasaki K., Sasaki T., Asakawa S., Kudoh J.,
RA Mang J., Lewis S., Lin S.-P., Lioh P., Malaj E., Nguyen T., Pan H.,
RA Mang O., Wang Y., Wang Z., White J., Willigham D., Wu H., Yao Z.,
RA Mang G., Chissoe S., Murray J., Milley N., Minx P.,
RA Mang O., Wang Y., Wansley A., Wohldmann P., Pepin K., Nelson R.,
RA McChen P., Wang S., Marsey J., Ran D., Stora D., Song L.,
RA Kim U.J., Shibar A., Simon M.I., Dumanski J.P., Pepin K., Nelson R.,
RA McChen P., Wang S., Shakh T., Kurahashi H., Saitte S., Budarf M.L.,
RA Kim L.J., Shibar A., Simon M.I., Dumanski J.P., Pepyin K., Nelson R.,
RA Kim L.J., Shikar A., Simon M.I., Dumanski J.P., Pepyin K., Nedra D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (ISOFORM 1).

Ninomiya K., Wagateuma M., Kanda K., Kondo H., Yokoi T., Kodaira H.,
Furuya T., Takahashi M., Kikkawa E., Omura Y., Abe K., Kamihara K.,
Katsuta N., Sato K., Tanikawa M., Yamazaki M., Sugiyama T., Irie R.,
Otsuki T., Sato H., Wakamatsu A., Ishii S., Yamamoto J., Isono Y.,
Kawai-Hio Y., Saito K., Nishikawa T., Kimura K., Yamashita H.,
Watsuo K., Nakamura Y., Sekine M., Kikuchi H., Murakawa K.,
Kanehori K., Takahashi-Fujii A., Oshima A., Sugiyama A., Kawakami B.
Suzuki Y., Sugano S., Nagahari K., Masuho Y., Nagai K., Isogai T.;
"NEDO human cDNA sequencing project.";
"NEDO human cDNA sequencing project.";
"Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Collins J.E., Burton Submitted (NOV-1997)
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MEDIJINE=21864496; PubMed=11875103;
NOTTIS J.D., Fan D., Sherk A., McDonnell D.
"A negative coregulator for the human ER.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RBM9 OR HRNBP2 OR RTA.
Homo sapiens (Human).
Eukaryota, Metazoa, Chordata,
Mammalia, Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted
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Seroussi E., Fransson I.,
Wilkinson P., Bodenteich
Tilahun Y., Wright H.;
"The DNA sequence of huma
Nature 402:489-495(1999).
                                                                                                                                                                                                                                                                                                                        EMBL;
                                                                                                                                                                                                                                                                                                                                                       EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                   CONFLICT
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SEQUENCE
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Pfam; PF00076; rrm; 1.
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Strausberg R.;
                                                                                                                                                                                                                                   PROSITE; PS50102; RRM; 1.
PROSITE; PS00030; RRM_RNP_RNA-binding; Alternative a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                      L; AY072786; AAL67150.1; -.
L; AF229058; AAL71905.1; -.
L; AL009266; CAAL5842.1; -.
L; AK055213; BAB70875.1; ALT_INIT.
L; AL079295; -; NOT_ANNOTATED_CDS.
L; AL049748; -; NOT_ANNOTATED_CDS.
L; BC013115; AAH13115.1; -.
L; BC015281; AAH25281.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MALLIED (MAR-2002) to the EMBL/GenBank/DDBJ databases. FUNCTION: RNA-binding protein that seems to act as a factor of ER-alpha.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Note=No experimental SIMILARITY: Contains 1
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IsoId=043251-4;
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Note=No experim
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Bodenteich
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ental confirmation available;
ins 1 RNA recognition motif (RRM)
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 71.8%;
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splicing.
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                                n >> o ⊢1
                                                                                             /FTId=VSP_007182.
VYQDGFYGADLYGGYAAYKYAQPATATAATAAAAAAAAXSD
GYGRVYTADPYHALAPAASYGVGAVASLYRGGYSRFAPY
-> DWQPTDWHSLLLQPQPPLLQPLQPLTVTVWAGCTQPTP
TWPLPLAMELALWRVYTEVATADLPPTEVT (in
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SLPLV -> I (in isofo
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 Score
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ALA-RICH.
                                                                          isoform 4
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                               -> TQ (IN REF. 3).
-> F (IN REF. 4).
-> V (IN REF. 6; AAH13115)
-> G (IN REF. 4).
                      40D6C8C40764B317 CRC64;
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Query Match

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CARBOHYD
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TRANSMEM
                                                                                                                                                                                                                                                                              EMBL; L18986; AAC37682.1; -. InterPro; IPR002000; Lamp. Pfam; PF01299; Lamp; 1.
                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          membrane glycoproteins.
Cell. Mol. Biol. Res. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=97021428; PubMed=8867788;
Uthayakumar S., Granger B.L.;
"Cell surface accumulation of overexpressed hamster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cricetulus griseus (Chinese hamster).
Eukaryota; Metazoa; Chordata; Craniat
Mammalia; Eutheria; Rodentia; Sciurog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P49129;
01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
Lysosome-associated membrane glycoprotein 1 p
(Lysosomal membrane glycoprotein A) (LGP A).
LAMP1 OR LGPA.
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                        CARBOHYD
CARBOHYD
CARBOHYD
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PROSITE; PS00310; LAMP_1; 2.
PROSITE; PS00311; LAMP_2; 1.
                                                                                                                                             DOMAIN
                                                                                                                                                                                                                   Transmembrane;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10029;
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                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                       I. MOI. Biol. Res. 41:405-420(1995).
FUNCTION: PRESENTS CARBOHYDRATE LICANDS TO SELECTINS. ALSO
IMPLICATED IN TUNCK CELL METASTASIS (BY SIMILARITY).
SUBCELLULAR LOCATION: Type I membrane protein. Lysosomal.
THIS PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOSOMES, AND THI
MEMBRANE (BY SIMILARITY).
SOME OF THE N-GLYCANS ATTACHED
LAMP-1 ARE POLYLACTOSAMINOGLYCANS (BY SIMILARITY).
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  Glycoprotein;
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SECOND LUMENAL DOM-
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
N-LINKED (GLCNAC.
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1; Mismatches
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                                                                                                                                                                                                                    Lysosome; Signal.
BY SIMILARITY.
                                                                                                                                               CYTOPLASMIC (POTENTIAL).
FIRST LUMENAL DOMAIN.
                                                                                                                                                                                                          LYSOSOME-ASSOCIATED MEMBRANE GLYCOPROTEIN
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RN SEQUENCE FROM
RN HAGAR K., Lin
RN HADRINE-9804
RN MEDILINE-9804
RN RN MEDILINE-9804
RN RN MEDILINE-9804
RN RN SECONOMIN N., RN SCROWNIN N.,
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RX MEDLINE-98044033; PubMed=9384377;
RA KINST F., Ogasawara N., Moszer I., Albertini A.M., Alloni G.,
RA Azevedo V., Bertero M.G., Bessieres P., Bolotin A., Borchert S.,
RA Azevedo V., Bertero M.G., Bessieres P., Bolotin A., Borchert S.C.,
RA Borriss R., Boursier L., Brans A., Braun M., Brignell S.C., Bron S.,
RA Brouillet S., Bruschi C.V., Caldwell B., Caphano V., Carter N.M.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J. Daniel R.A.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J. Daniel R.A.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J. Daniel R.A.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J. Daniel R.A.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J. Daniel R.A.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J. Daniel R.A.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J., Galleron N.,
RA Fritz C., Fujita M., Fujita Y., Furita S., Galizzi A., Galleron N.,
RA Gliseppi G., Guy B.J., Haga K., Haiech J., Harwood C.R., Henaut A.,
RA Guiseppi G., Guy B.J., Haga K., Haiech J., Rarwood C.R., Henaut A.,
RA Joris B., Karamata D., Kasahara Y., Klaerr-Blanchard M., Klein C.,
RA Kurita K., Lapidus A., Lardinois S., Lauber J., Lazarevic V.,
RA Kurita K., Lapidus A., Liu H., Masuda S., Mauel C., Medigue C.,
RA Medina N., Mellado R.P., Liu H., Masuda S., Mauel C., Medigue C.,
RA Moone D., O'Reilly M., Ogawa K., Ogiwara A., Oudega B., Park S.H.,
RA Parro V., Pohl T.M., Portetelle B., Rose M., Sadaie Y.,
RA Parro V., Pohl T.M., Portetelle B., Rose M., Sadaie Y.,
RA Schiguchi J., Sekowska A., Serror S.J., Serror P., Snin B.S., Soldo B.,
RA Sakiguchi J., Sekowska A., Saroreter R., Scoffone F.,
RA Sakiguchi J., Sekowska A., Tarkagi T., Takahashi H., Takemaru K.,
RA Takeuchi M., Tamakoshi A., Tanaka T., Tarasaha T., Tognoni A.,
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Best Local S
Matches 5
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SEQUENCE
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CARBOHYD
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Bacteria; Firmicutes;
NCBI_TaxID=1423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Haga K., Liu H., Yasumoto K., Takahashi H., Yoshikawa H. "Sequence analysis of the 70kb region between 17 and 23 Bacillus subtilis chromosome.";
Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases.
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(Rel. 36, Last sequence update)
(Rel. 41, Last annotation update)
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RC SEPCIES-S.aureus (strain Mu50), and S.aureus H., Kobayashi I.,

RA Kuroda M., Ohta T., Uchiyama I., Baba T., Yuzawa H., Kobayashi I.,

RA Cui L., Oguchi A., Aoki K.-I., Nagai Y., Lian J.-O., Ito T.,

RA Kanamori M., Matsumaru H., Maruyama A., Murakami H., Hosoyama A.,

RA Mizutani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito C.,

RA Mizutani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito C.,

RA Sekimizu K., Hirakawa H., Kuhara S., Goto S., Yabuzaki J.,

RA Kanehisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., Shiba T.

RA Hattori M., Ogasawara N., Hayashi H., Hiramateu K.;

RA Hattori M., Ogasawara N., Hayashi H., Hiramateu K.;
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Tosato V., Uchiyama S., Vandenbol M., Vannier F., Vassarotti A.,
Viari A:, Wambutt R., Wedler E., Wedler H., Weitzenegger T.,
Winters P., Wipat A., Yamamoto H., Yamane K., Yasumoto K., Yata K.,
Yoshikawa H.F., Zumstein E., Yoshikawa H., Danchin A.;
"The complete genome sequence of the gram-positive bacterium Bacillus subtilis.";
Nature 390:249-256(1997).
[2]
SEQUENCE FROM N.A.
STRAIN-168;
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Yamamoto H., Uchiyama S., Nugroho F.A., Sekiguchi J.;
Yamamoto H., Uchiyama S., Nugroho F.A., Sekiguchi J.;
"Cloning and sequencing of a 35.7 kb in the 70 degree-73 degree region of the Bācillus subtilis genome reveal genes for a new two-component system, three spore germination proteins, an iron uptake system and a general stress response protein.";
Gene 194:191-199(197).
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01-JAN-1998 (TrEMBLrel. 05,
01-JAN-1998 (TrEMBLrel. 05,
01-MAR-2002 (TrEMBLrel. 20,
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Pfam; PF01032; FecCD; 1.
ProDom; PD001557; FecCD; 1.
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AGRD OR SAV2037 OR SA1842.1 OR SAS066
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Bacteria, Firmicutes, Bacillales, Staphylococcus
MCBI_TaxID=158878, 158879, 1280;
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EMBL; AF001782; AAB63265.1;
EMBL; AP003364; BAB58199.1;
EMBL; AP003135; BAB43124.1;
Complete proteome.
SEQUENCE 47 AA; 5149 MW;
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Q8XHH9;
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Similar to lysosomal memorane
Mus musculus (Mouse).
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01-MAR-2003
Strausberg R.;
Submitted (APR-2001) to the
EMBL; BC006785; AAH06785.1;
InterPro; IPR002000; Lamp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proc. Natl. Acad. Sci. U.S.A. 99:996-1001(2002).
EMBL, AP003194; BAB82211.1; -.
InterPro, IPR002528; MatE.
Pfam; PF01554; MatE; 2.
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Bacteria; Firmicutes; Clostridia;
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Hypothetical protein; Complete proteome.
SEQUENCE 463 AA; 51100 MW; 6EE3E385633DEEB9 CRC64;
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Shiba T., Ogasawara N., Hattori M., Kuhara S., Hayashi H.;
"Complete genome sequence of Clostridium perfringens, an a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. STRAIN=13 / Type A; PubMed=11792842;
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Mammalia; Eutheria;
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PRINTS; PR00336; LYSASSOCTDMP.
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PROSITE; PS00311; LAMP_2; 1.
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SEQUENCE 189 AA; 20456 MW;
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pathogen."
Proc. Natl
EMBL; AE01
                                                    STRAIN=UA159 / ATCC 700610 / Serotype C;
MEDLINE=22295063; PubMed=12397186;
Ajdic D., McShan W.M., McLaughlin R.E., Savic G., Chang J.,
Ajdic D., McShan W.M., Tian R., Kenton S., Jia H., Lin S.,
Carson M.B., Primeaux C., Tian R., Kenton S., Jia H., Lin S.,
Li S., Zhu H., Najar F., Lai H., White J., Roe B.A., Ferretti
"Genome sequence of Streptococcus mutans UA159, a cariogenic of
                                                                                                                                                                                                                                                                                 01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation updat
Conserved hypothetical protein, putative membrane
SMU.337.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Daub J., Mudge J., Blaxter M.L.;
"The mitochondrial genome of the nematode parasite Brug
Submitted (AUG-2002) to the EMBL/GenBank/DDBJ databases
EMBL; AF538716; AAN17809.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mitochondrion.
SEQUENCE 259
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01-MAR-2003
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NCBI_TaxID=6279;
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Natl. Acad. Sci. U.S.A. AE014881; AAN58096.1; -
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P SEQUENCE FROM N.A.

(C STRAIN=CS7BL/6J; TISSUB=Lung; E STRAIN=CS7BL/6J; TISSUB=Lung; X MEDILINE=21085660; PubMed=11217851; X MEDILINE=21085660; PubMed=11217851; X MEDILINE=21085660; PubMed=11217851; X; Yoshino M., Itoh M., Ishii Y., X Marakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S., A Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I., A Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kasukawa T., Saito R., X Kadota Y., Marakaki Y., Gojobori T., Bono H., Kasukawa T., Saito R., X Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T., A Kadota K., Matsuda H.A., Ashburner M., Besole G., Quackenbush J., X Kadota K., Staubli F., Suzuki R., Tomita M., Wagner I., Mashio T., A Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J., Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner I., Mashio T., A Schai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G., A Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F., A Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F., A Blake J., Boffelli D., Bult C., Fletcher C., Fujita M., Gariboldi M.,
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Pfam; PF01299; Lamp; 1.

PRINTS; PR00336; LYSASSOCTDMP.

PROSITE; PS00310; LAMP_1; 2.

PROSITE; PS00311; LAMP_2; 1.

SEQUENCE 406 AA; 43879 MW;
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Q9DC13;
01-JUN-2001
01-JUN-2001
01-OCT-2002
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01-MAR-2002
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Q8VH34;
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Submitted (DEC-2001) to the
EMBL; AY069968; AAL58070.1;
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Mammalia; Eutheria;
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Mammalia; Eutheria;
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Rodentia;
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Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82.1%;
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77.8%;
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17,
22,
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Last sequence that the control of the cont
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 32;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 32; DB
Pred. No. 39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
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Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               proteome.
39AAB88F13444564 CRC64;
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RESULT
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Best Local S
Matches 7
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Best Local S
Matches
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InterPro: IPR002000; Lamp.
Pfam; PF0129; Lamp; 1.
PRINTS; PR00336; LYGASSOCTDMP.
PROSITE; PS00310; LAMP_1; 2.
PROSITE; PS00311; LAMP_2; 1.
SEQUENCE 407 AA; 43936 MW;
                                                                                         Q9M838
Q9M838;
01-OCT-2000
01-OCT-2000
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Receptor.
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H., Lyons P., Marchionni L., Mashima J., Mazzareli J., Mombaerts P., Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N., Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F., Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L., Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S., Hayashizaki Y.,

"Functional annotation of a full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00001; 7tm 1; 1.

PRINTS; PR00237; GPCRRHODOPSN.

PROSITE; PS00237; G PROTEIN_RECEP_F1 1; 1.

PROSITE; PS50262; G_PROTEIN_RECEP_F1 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Smock S.L., Castleberry T.A., Lu B., Owen T.A.;
"Pan troglodytes prostaglandin E2 subtype EP4 receptor.";
Submitted (AUG-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AY052641; AAL15039.1; -.
InterPro; IPR000276; GPCR_Rhodpsn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Prostaglandin E2 subtype E94 receptor.
Pan troglodytes (Chimpanzee).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
Arabidopsis thaliana (Mouse-ear cress). Eukaryota; Viridiplantae; Streptophyta;
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                                                                   T27C4.14 protein.
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) (TrEMBLrel. 15,
2 (TrEMBLrel. 21,
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87.5%;

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Pred. No.
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(on update)
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; Pan.
  Tracheophyta;
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RESULT 11
Q98K8
1D Q98K8
AC WCB1
AC WCCMB1
AC WCC
  RESULT 12
P72591
ID P7259
AC P7259
DT 01-FE
DT 01-FE
DT 01-JU
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Best Local S
Matches 6
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Best Local S
Matches
  P72591;
01-FEB-1997
01-FEB-1997
01-JUN-2002
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(98K81;
01-OCT-2001 (TrEMBLrel. 18, Created)
01-OCT-2001 (TrEMBLrel. 18, Last sequence update)
01-OCT-2001 (TrEMBLrel. 18, Last annotation updat
01-OCT-2001 (TrEMBLrel. 18, Last annotation updat
0xidoreductase of short-chain.
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STRAIN-CV. Columbia;
Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haas B., Wu D.
Maiti R., Ronning C.M., Koo H., Fujii C.Y., Utterback T.R.,
Barnstead M.E., Bowman C.L., White O., Nierman W.C., Fraser C.M.;
"Arabidopsis thaliana chromosome III BAC T27C4 genomic sequence.";
Submitteed (JAN-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AC02288; AAF63780.1;
InterPro; IPR004314; DUF239.
Pfam; PF03080; DUF239; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rhizobium loti (Mesorhizobium loti).
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Phyllobacteriaceae; Mesorhizobium.
NCBI_TaxID=381;
                                                                                                    P72591
                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE 279 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA Res. 7:331-338(2000).
EMBL; AP002997; BAB48933.1; -.
InterPro; IPR002198; ADH short.
Pfam; PF00106; adh short; 1.
PRINTS; PR00080; SDRFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kaneko T., Nakamura Y., Sato S., Asamizu E., Kato T., Sasamoto Watanabe A., Idesawa K., Ishikawa A., Kawashima K., Kimura T., Kishida Y., Kiyokawa C., Kohara M., Matsumoto M., Matsumoto A., Mochizuki Y., Nakayama S., Nakazaki N., Shimpo S., Sugimoto M., Takeuchi C., Yamada M., Tabata S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=MAFF303099;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=21082930; PubMed=11214968;
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(TrEMBLrel. 02, Created)
(TrEMBLrel. 02, Last sequence update)
(TrEMBLrel. 21, Last annotation update)
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Pred. No. 2e+0
2; Mismatches
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Pred. No. 69;
0; Mismatches
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MEDLINE=2015035; Pubmed=10684935;
MEDLINE=2015035; Pubmed=10684935;
Miller K., Weidman J., Khouri H., Craven B., E
Linher K., Weidman J., DeBoy R., Kolonay J., Mc(
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                                                                                                                                                                                                                                                                                                                                                                                                  Gwinn M., Nelson W., DeBoy R., Kolonay J., Eisen J., Fraser C.M.; Elsen G., Fraser C.M.; Trachomatis pneumoniae AR39."; Pheumoniae AR39."; Pheumon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacteria; Chlamydiae;
NCBI_TaxID=83560;
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Pfam; PF01032; FecCD; 1.
ProDom; PD001557; FecCD; 1.
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Synechocystis sp. (strain Bacteria; Cyanobacteria;
                                                                                                                                                                                                                                             Complete proteome. SEQUENCE 578 AA;
                                                                                                                                                                                                                                                                                                            InterPro; IPR001712; Bact_FHIPEP
Pfam; PF00771; FHIPEP; 1.-
PRINTS; PR00949; TYPE3IMAPROT.
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ort protein, FHIPEP family.
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87.5%;
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Chroococcales;
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Pred. No. 1.5e
2; Mismatches
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1.5e+02;
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erback T., Berry I
n B., Bowman C., I
J., McClarty G.,
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R., Bass
Dodson R.
Salzberg
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Q8YK27;
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01-MAY-2000
01-MAY-2000
                                                                                                                       MEDLINE-21595285; PubMed=11759840; Kuritz T., Sasamoto S., Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S., Watanabe A., Iriquchi M., Ishikawa A., Kawashima K., Kimura T., Kishida Y., Kohara M., Matsumoto M., Matsuno A., Muraki A., Nakazaki N., Shimpo S., Sugimoto M., Takazawa M., Yamada M., Yasuda M., Tabata S.; "Complete genomic sequence of the filamentous nitrogen-fixing cyanobacterium Anabaena sp. strain PCC 7120."; DNA Res. 8:205-213(2001).
EMBL, AP003604; BAB77421.1; -. Plasmid; Complete proteome. SEQUENCE 188 AA; 21357 MW; 014267C02480F5A8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Anabaena sp. (strain PCC /120/.
Plasmid pCC7120delta.
Bacteria; Cyanobacteria; Nostocales;
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MEDLINE-98325267; PubMed=9657932;
Bourgoin F., Guedon G., Gintz B., Decar

"Characterization of a novel insertion

Streptococcus thermophilus.";

Plasmid 40:44-49(1998).
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Bacteria; Firmicutes; Lactobacillales;
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Search completed: January 29, 2004, 14:56:49 Job time: 27.8676 secs

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2: /cgn2_6/ptodatta/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodatta/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodatta/1/iaa/6B_COMB.pep:*
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US-09-339-511-5

US-08-861-476C-6

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US-09-339-511-7

US-09-252-991A-27559

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US-09-339-511-7

US-08-115-365-2

US-08-115-365-2

US-08-115-365-2

US-08-115-365-2

US-08-252-991A-26438

US-09-252-991A-26438

US-09-252-991A-2922

US-08-441-349-4

US-09-252-991A-2922

US-09-134-325-6033

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Sequence 1, Appli
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Sequence 6033, Ap
Sequence 6033, Ap
Sequence 7074, Appli
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Sequence 436, App	2	Sequence 8, App	, App	2301,	Sequence 23789,	4.	Sequence 3, Appl	•	•	•	Sequence 1, App	Sequence 1, Appl	Sequence 4, Appl	9	Sequence 793, App	63	748,
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ALIGNMENTS

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Sequence 1, Application US/09339511
Patent NO. 6337385
GENERAL INFORMATION:
APPLICANT: Muir, Tom
APPLICANT: Mayville, Patricia
APPLICANT: NO. 6337385ick, Richard I
APPLICANT: No. 637385ick, Richard I
APPLICANT: Ji, Guangyong
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patent No. 6337385

GENERAL INFORMATION:

APPLICANT: MAYVILLE, Patricia
APPLICANT: MayVILLE, Patricia
APPLICANT: MayVILLE, Patricia
APPLICANT: No. 6337385ick, Richard P.
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLCCOCCUS PE
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT APPLICATION NUMBER: 06/24
PRIOR APPLICATION NUMBER: 06/24
PRIOR APPLICATION NUMBER: 06/24
PRIOR FILING DATE: 1998-06-24
PRIOR FILING DATE: 1998-06-24
PRIOR FILING DATE: 1998-06-24
PRIOR FILING DATE: 1998-06-24
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SEQ ID NO 5

LENGTH: 9

TYPE: PRT
ORGANISM: Artificial Sequence
PEATURE:
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: Deptide
    Muir, Tom
Mayville, Patricia
No. 6337385ick, Richard F
Beavis, Ronald
Ji, Guangyong
                                                                                                                                                                                                                                                                                                                                                                       Conservative
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CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 199-06-24
PRIOR FILING DATE: 199-06-24
PRIOR FILING DATE: 1998-06-24
VUMBER OF SEQ ID NOS: 8
SOPTWARE: Patent Tr
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Best Local Similarity
Tatches 7; Conserve
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CURRENT APPLICATION NUMBER: US/08/861,476C
CURRENT FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.0
SEQ ID NO 3
                                                  Sequence 6, Application US/08861476C
Patent No. 6447786
GENERAL INFORMATION:
APPLICANT: New York University Medical Center
TITLE OF INVENTION: ACKING EXPRESSION OF VIRULENCE FACTORS
FILE REFERENCE: 6375/7
CURRENT APPLICATION NUMBER: US/08/861,476C
CURRENT APPLICATION NUMBER: US/08/861,476C
CURRENT FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.0
SEQ ID NO 6
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Patent No. 6447786
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TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT DOCATION: (5)
TYPE: PRT ORGANISM: Staphylococcus aureus
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                                                                                                                                                                                                                                                                                                                                             US-09-339-511-2
                                      NUMBER OF SEQ 1
SOFTWARE: Pate
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local
Matches
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                                                                                                                                                                                                                                                                                            Sequence 2, Application US/09339511 Patent No. 6337385 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                      CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
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                                                                                                                                                        APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGTH: 9
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7; Conservative
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                                                         Patentin Ver.
                                                                                                                                                                                                                                             Mayville, Patricia
No. 6337385ick, Richard
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77.8%;
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APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILLING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEO ID NOS: 8
NUMBER OF SEO ID NOS: 8
NUMBER OF SEO ID NOS: 8
SOFTWARE: Patentin Ver: 2.0
                                                                                     LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at
                                                                                                                                OTHER INFORMATION: Description of OTHER INFORMATION: peptide NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6, Application US/09339511
5. 6337385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Richard P.
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Pred. No.
                                      Score 31;
                      Pred.
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                      No.
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..5e+05;
                                          DB 4;
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                                        Length 9;
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US-09-107-532A-4904
US-09-107-532A-4904
; Sequence 4904, Application US/09107532A
; Sequence 4904, Application US/09107532A
; Patent No. 6583275
; GENERAL INFORMATION:
; GENERAL INFORMATION: DOUGETTE-Stamm
; HOUSE OF INVENTION: NUCLEIC ACID
ENTEROCOCCUS
                                                                    NAME/KEY: misc_feature;
i LOCATION: (B) LOCATION 1...339
SEQUENCE DESCRIPTION: SEQ ID NO: 4904:
US-09-107-532A-4904
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Best Local Similarity
Thes 7; Conserve
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Best Local Similarity 75. Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: VARIANT
LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino
                                                                                                                                                                                                                                                                                        TELEFAX: (781)893-8277
INFORMATION FOR SEQ ID NO: 4904:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM; Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION UNMBER: 60/081571
FILING DATE: July 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Arintello, Pamela Deneke
REGISTRATION INFORMATION:
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-5007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
COMPUTER: PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                      LENGTH: 339 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
                                                                                                                                                                                        ORIGINAL SOURCE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Waltham
                                                                                                                                                                      ORGANISM: Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: GENOME THERAPEUTICS CORPORATION STREET: 100 Beaver Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                  76.9%;
75.0%;
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1; Mismatches
Score 30; DB 4;
Pred. No. 43;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and David Bush
AND AMINO ACID SEQUENCES RELATING TO
FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
2.5e+05;
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                                      Length 339;
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RESULT 10
US-09-339-511-7
J Sequence 7, Application US/09339511
Patent NO. 6337385
GENERAL INFORMATION:
APPLICANT: Muir, Tom
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US-09-252-991A-27559
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                                                                                                                                                                                                                                                                                                       US-09-252-991A-28048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 27559
LENGTH: 464
TYPE: PRT
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Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J.
                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 28048
LENGTH: 464
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Marc J.
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Best Local
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                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: MAIC J. Rubenfield et al.

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS

TITLE OF INVENTION: ARRUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 107196.136

CURRENT APPLICATION NUMBER: US/09/252,991A

CURRENT FILING DATE: 1998-02-18

PRIOR APPLICATION NUMBER: US 60/074,788

PRIOR APPLICATION NUMBER: US 60/094,190

PRIOR FILING DATE: 1998-02-27

PRIOR FILING DATE: 1998-07-27
                                                                                                                                                                                                                                                                                                                                                                                               CURRENT EPILICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILLING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILLING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
                                                                                                                                                                                                                                                                                                                     ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                              Local
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6; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/09252991A
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                                                                                                                                                                                                                                              76.9%; Score 30; 66.7%; Pred. No.
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Pred. No. 62;
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                                                                                                                                                                                                                                                                  4
                                                                                                                                                                                                                                                                  Length 464
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US-08-115-365-2
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                                                                                                                                                                                                                                                                                                                      ; TYPE: PRT; ORGANISM: Homo sapiens
US-09-882-835-2
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SEQ ID NO 7
LENGTH: 9
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Matches
                                                                  Patent No. 5605814
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: FastSEQ for Windows Version SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Applicati
Patent No. 6462187
GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                                                                      Matches
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PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PATELLY DATE: 1988-06-24
                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Bandaru, Rajasekhar
TITLE OF INVENTION: 22109, A NOVEL HUMAN THIOREDOXIN FAMILY
TITLE OF INVENTION: MEMBER AND USES THEREOF
FILE REFERENCE: 10448-063001
CURRENT APPLICATION NUMBER: US/09/882,835
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: 60/211,673
PRIOR APPLICATION NUMBER: 60/211,673
PRIOR FILING DATE: 2000-06-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGTH:
                                                                                                                                                                                                                                                                                                                                                                         ENGTH: 332
                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                     197 GVNSYPSLF 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 GVNAXSSAF 9
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                                                                                                Application US/08115365
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No. 6337385ick, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Beavis, Ronald
              ABRAMOVITZ, MARK
ADAM, MOHAMMED
BASTIEN, LISON
                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
GRYGORCZYK, RICHARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Guangyon
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                                                                                                                                                                                                                                                                      Score 29;
Pred. No.
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Pred. No.
                                                                                                                                                                                                                                                       Mismatches
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                                                                                                                                                                                                                                                                                      DB 4;
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US-08-115-365-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: 1906
TELECOMMUNICATION INFORMATION:
TELEPHONE: 908-594-3905
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 488 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, V
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/115,365
FILING DATE: 31-AUG-1993
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                    SENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                    tent No.
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/586,897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: WALLEN III, JOHN W
REGISTRATION NUMBER: 35,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: JOHN WALLEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 2
                                                                                    COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                     APPLICANT: SAWYER, NICOLE TITLE OF INVENTION: DNA E
                                                                                                                                                 ADDRESSEE: JOHN WALLEN
STREET: P.O. BOX 2000,
CITY: RAHWAY
STATE: NJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: J
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RUSHMORE, THOMAS H.
                                                                                                                                                                                                                                                                                                       METTERS, KATHLEEN
                                                                                                                                                                                                                                                                                                                    BASTIEN, LISON
GRYGORCZYK, RICHARD
                                                                                                                                                                                                                                                                                                                                                     ADAM, MOHAMMED
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75.0%;
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                                                                                                                                                                                                                                                                                      THOMAS H.
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                                                                                                                                                                                       126 E. LINCOLN AVE
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Pred. No. 1
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FILING DATE:

05-AUG-1996

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RESULT 15
US-09-252-991A-25625
; Sequence 25625, Application US/09252991A
; Patent No. 6551795
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US-09-339-511-4
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Best Local Similarity
Matches 7; Conservat
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Best Local S
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APPLICATION NUMBER: US 08/115,365
FILING DATE: 31-AUG-1993
ATTORNEY/AGENT INFORMATION:
NAME: WALLEN III, JOHN W.
REGISTRATION NUMBER: 35,403
REFERENCE/DOCKET NUMBER: 19066
TELECOMMUNICATION INFORMATION:
TET:FUNDEN TO AGG-564,7066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Beavis, Ronald
APPLICANT: J1, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT PEPLICATION NUMBER: US/09/339,511
CURRENT PILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 600/930,402
PRIOR FILING DATE: 1998-06-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: 908-594-3905
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Muir, Tom
APPLICANT: Mayville, Patricia
APPLICANT: No. 6337385ick, Richard P.
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position:
                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 488 amino acids
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TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
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Similarity 75.0%;
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87.5%;
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Pred. No. 2.5e+05;
1; Mismatches (
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Search completed: January 29, 2004, 15:03:22 Job time : 12.1176 secs

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Result
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Maximum Match 100%
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Maximum DB
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Perfect score:
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1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*

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Match
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39
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US-10-201-444-3
US-10-201-444-6
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US-10-369-493-1188
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US-10-369-493-14064
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US-09-864-408A-7334
US-10-292-798-1658
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Sequence 1, Appli
Sequence 7, Appli
Sequence 1638, Ap
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equence 45	quence 45	equence 45	equence 45	equence 45	equence 45	equence 45	equence 45	equence 45	eguence 45	equence 45	equence 45	equence 45	equence 45	equence 45	eguence 45	equence 45	equence 9,	equence 45	quence 574	equence 29	equence 13	equence 56	equence 3,						

ALIGNMENTS

```
APPLICANT: Mayville, Patricia
APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453Alick, Richard F.
APPLICANT: No. US20020077453Alick, Richard F.
APPLICANT: No. US20020077453Alick, Richard F.
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT APPLICATION NUMBER: 060/090,402
PRIOR APPLICATION WIMBER: 600/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOPTWARE: Patentin Ver. 2.0
SEQ ID NO 5
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                                                                                                                                                                TENOTH: 9

TYPE: PRT

ORGANISM: Artificial Sequence

PRATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: peptide
NAME/KBY: VARIANT
LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position
                          1 GVNAXASLF
                                                                               Similarity
9; Conser
GVNAXASLF
                                                                                 Conservative
                                       9
                                                                               94.9%; Score 37; DB
100.0%; Pred. No. 7e
ive 0; Mismatches
                                                                                                DB 13; Length 9; 7e+05;
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; OTHER INFORMATION: Xaa represents any amino acid at this position. US-10-032-950-1
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                                                                        Query Match
Best Local S
Matches 7
                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/10/201,444
CURRENT FILING DATE: 2002-07-23
PRIOR APPLICATION NUMBER: US/08/861,476
PRIOR FILING DATE: 1997-05-22
NUMBER OF SEQ'ID NOS: 8
SOFTWARE: Patentin version 3.0
SEQ ID NO 3
LENGTH: 9
LENGTH: 9
LENGTH: 9
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Best Local
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CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: New York University Medical Center TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS FILE REFERENCE: 63753/7
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
                                                                                                                                                                TYPE: PRT ORGANISM: Staphylococcus aureus
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8; Conserv
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GVNACSSLF 9
                                   GVNAXASLF 9
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No. US20020077453Alick, Richard
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                                                                        84.6%; Score 33; DB 15;
77.8%; Pred. No. 7e+05;
cive 1; Mismatches 1
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Pred. No. 7e+05;
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RESULT 4 US-10-201-444-6

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; TYPE: PRT
; ORGANISM: Staphylococcus aureus
US-10-201-444-6
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Best Local S
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APPLICANT: Castleberry
APPLICANT: Lu, Bihong
APPLICANT: Owen, Thoma
APPLICANT: Smock, Stev
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Publication No. US20030078378A1
GENERAL INFORMATION:
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TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS
FILE REFERENCE: 63753/7
CURRENT APPLICATION NUMBER: US/10/201,444
CURRENT FILING DATE: 2002-07-23
PRIOR FAPILATION NUMBER: US/08/861,476
PRIOR FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Smock, Steven
TITLE OF INVENTION: DNA ENCODING THE CHIMPANZEE PROSTAGLANDIN E2 RECEPTOR EP4 SUBT
FILE REFERENCE: PC11827AGPR
CURRENT APPLICATION NUMBER: US/10/243,351
CURRENT FILING DATE: 2002-09-13
                                                       APPLICANT: Muir. Tom
APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453A1ick,
APPLICANT: Beavis, Ronald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT FILING DATE: 2002-09-13
PRIOR APPLICATION NUMBER: US 60/322,915
PRIOR FILING DATE: 2001-09-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn version 3.1
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TYPE: PRT
PPLICANT: Ji, Guangyong
ITLE OF INVENTION: NOVEL STAPHYLOCOCCUS
ITLE OF INVENTION: INTERFERENCE
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7; Conserv
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Owen, Thomas A.
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Pred. No.
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                        PEPTIDES FOR BACTERIAL
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US-10-369-493-11888
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CURRENT FILING DATE: 2003-02-28
PRIOR APPLICATION NUMBER: US 60/360,039
PRIOR FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 11888
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Publication No. US20030233675A1
GENERAL INFORMATION:
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CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Cao, Yongwei
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
APPLICANT: Chen, Xianfeng
APPLICANT: Cao, Yongwei
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
APPLICANT: Goldman, Barry S.
APPLICANT: Chen, Xianfeng
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
TITLE OF INVENTION: FLANTS WITH IMPROVED PROPERTIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES FILE REFERENCE: 38-10(52052)B
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TYPE: PRT
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LOCATION: (5)
OTHER INFORMATION: Kaa represents any amino acid
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ORGANISM: Artificial Sequence
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Local Similarity 87.5%;
les 7; Conservative
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llarity 77.8%;
Conservative
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Pred. No. 7e+0
2; Mismatches
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Pred. No.
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FILE REFERENCE: 600-1-231N VIVIDED CURRENT APPLICATION NUMBER: US/10/032,950 CURRENT FILING DATE: 2001-12-27 PRIOR APPLICATION NUMBER: 60/090,402 PRIOR FILING DATE: 1998-06-24 NUMBER OF SEQ ID NOS: 8 SOFTMARE: Patentin Ver. 2.0 SEQ ID NO 2
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PRIOR FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 14064
LENGTH: 800
                                                                                                                                               Sequence 7334, Application US/09864408A Publication No. US20040009474A1 GENERAL INFORMATION:
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Best Local
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APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453Alick, Richard
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APPLICANT: Leach, Martin D.
APPLICANT: Shimkets, Richard A.
APPLICANT: Shimkets, Richard A.
TITLE OF INVENTION: No. US20040009474A1el Human
FILE REFERENCE: 21402-012
CURRENT APPLICATION NUMBER: US/09/864,408A
CURRENT APPLICATION NUMBER: 60/206,690
PRIOR APPLICATION NUMBER: 60/206,690
PRIOR FILING DATE: 2000-05-24
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                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Xaa represents any amino acid at this position
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OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PPLICANT: Ji, Guangyong
ITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
ITLE OF INVENTION: INTERFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: VARIANT
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7; Conserva
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77.8%;
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Pred. No. 1.1e+02;
0; Mismatches 2
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Pred. No. 7e+05;
1; Mismatches
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                                                                                              Polynucleotides and Polypeptides
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APPLICANT: SUMA, MAKIKO
APPLICANT: ASAI KIYOSHI
APPLICANT: ASAI KIYOSHI
APPLICANT: ASAI KIYOSHI
APPLICANT: ASAI KIYOSHI
ITILE OF INVENTION: NOVEL G PROTEIN-COUPLED RECEPTORS
FILE REFERENCE: 084335/0152
CURRENT APPLICATION NUMBER: US/10/017,161
CURRENT FILING DATE: 2002-12-18
PRIOR APPLICATION NUMBER: UF/10/017,161
PRIOR APPLICATION NUMBER: US/10/017,161
PRIOR FILING DATE: 2001-06-18
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Best Local Similarity
Marches 6; Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Homo sapiens
US-10-292-798-1638
                                                                                                                                                                                                   Sequence 2252, Application US/10017161 Publication No. US20030143668A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 1638
LENGTH: 415
                                                                                                                                                                                                                                                                                                                                                                                                               Matches
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Best Local Similarity
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APPLICANT: SUWA, MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1638,
Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: JP 2001-246789
PRIOR FILING DATE: 2001-06-18
NUMBER OF SEQ ID NOS: 2070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: AKIYAMA, YUTAKA
APPLICANT: ABURATANI, HIROYUKI
TITLE OF INVENTION: GUANGSINE TRIPHOSPHATE-BINDING PROTEIN COUPLED RECEPTORS
FILE REFERENCE: 084335/166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: 10/017,161 PRIOR FILING DATE: 2001-12-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/10/292,798
CURRENT FILING DATE: 2002-11-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 9068
SOFTWARE: FastSEQ for Windows Version 4.0
EQ ID NO 7334
NUMBER OF SEQ ID NOS: 2430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Wherein Kaa may be any naturally occuring amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CANT: SUWA, MAKIKO
                                                                                                                                                                                                                                                                                                                                    401 GMHAAASLF 409
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                                                                                                                                                                                                                                                                                                                                                                     1 GVNAXASLF 9
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Similarity 66.7%;
6; Conservative
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Pred. No. 29;
1; Mismatches
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Pred. No. 94;
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                                                       SEQ ID NO 7
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Best Local
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; LENGTH: 432
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-017-161-2252
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7, Application US/10032950 Publication No. US20020077453A1 GENERAL INFORMATION:
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Matches 6; Conserv
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APPLICANT: ABURATANI, HIROYUKI
TITLE OF INVENTION: GUANOSINE TRIPHOSPHATE-BINDING PROTEIN COUPLED RECEPTORS
FILE REFERENCE: 084335/166
CURRENT APPLICATION NUMBER: US/10/292,798
CURRENT FILING DATE: 2002-11-13
PRIOR APPLICATION NUMBER: 10/017,161
PRIOR FILING DATE: 2001-12-18
PRIOR FILING DATE: 2001-12-18
PRIOR FILING DATE: 2001-106-18
NUMBER OF SEQ ID NOS: 2070
SOFTMARE: PATENTIN OFF: 2.1
                                                                                                                                                           CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                            APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: SUWA, MAKIKO APPLICANT: ASAI, KIYOSI
                                                                                                                                          SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Muir, APPLICANT: Mayv APPLICANT: No.
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FEATURE: OTHER INFORMATION: Description of Artificial Sequence: Synthetic
                                           ORGANISM: Artificial Sequence
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Local Similarity 66.7%;
les 6; Conservative
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No. US20020077453Alick, Richard P.
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AKIYAMA, YUTAKA
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Pred. No. 98;
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Pred. No.
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Mismatches
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Sequence 46, Application US/10145566
Publication No. US20030138890A1
GENERAL INFORMATION:
APPLICANT: Alexandra Glucksmann, Maria
APPLICANT: Silos-Santiago, Inmaculada
APPLICANT: M. Galvin, Katherine
APPLICANT: Weich, Nadine
APPLICANT: Weich, Nadine
APPLICANT: Weich, Nadine
APPLICANT: Bandaru, Rajasekhar
APPLICANT: Kapeller-Libermann, Rosana
APPLICANT: Kapeller-Libermann, Rosana
APPLICANT: Kapeller-Libermann, Rosana
APPLICANT: Kapeller-Libermann, Rosana
APPLICANT: MUNENTION: HUMAN THIOREDOXIN FAMILY MEMBERS, HUMAN LEUCINE-RITILE OF INVENTION: REPEAT FAMILY MEMBERS, AND HUMAN RINGFINGER FAMILY MEMBER
TITLE OF INVENTION: REPEAT FAMILY MEMBERS, AND HUMAN RINGFINGER FAMILY MEMBER
CURRENT FILING DATE: 2002-05-14
Prior Application removed - See File Wrapper or Palm
NUMBER OF SEQ ID NOS: 95
SOFTWARE: FastSEQ for Windows Version 4.0
LENGTH: 332
TYPE: PRT
CRGANISM: Homo sapiens
US-10-145-586-46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; OTHER INFORMATION: peptide
; NAME/KEY: VARIANT
; LOCATION: (5)
; OTHER INFORMATION: Xaa represents any amino acid at this position.
US-10-032-950-7
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Search completed: January 29, 2004, 15:01:46 Job time : 26.5441 secs
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US-10-145-586-46
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                                                                                                                                                                                           Query Match 74.4%;
Best Local Similarity 66.7%;
Matches 6; Conservative
                                                                                            197 GVNSYPSLF 205
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Minimum
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Maximum Match 100%
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seq length: 2000000000
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    A Geneseq 19Jun03:*

1: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*
2: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*
3: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
4: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
5: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
6: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
6: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1986.DAT:*
7: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
9: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
9: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1990.DAT:*
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11: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
12: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
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16: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
17: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
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19: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
20: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
21: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
22: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*
23: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
24: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2003.DAT:*
24: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2003.DAT:*
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39
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Match
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Gapop 10.0 , Gapext 0.5
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Copyright (c) 1993 - 2004 Compugen Ltd.
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ABP53545
AAM50904
AAY67859
AAY67860
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                                            S. aureus peptide Cyclic peptide SEQ AgrD-autoinducing Staphylococcus aur Staphylococcus aur Protected peptide
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AgrD2 linear free
AgrD2 lactone cycl
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The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of staphylococcus aureus. It is an AgrD-autoinducing peptide, where AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NH2-X(n)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester
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bond, where X is an amino acid, an amino acid analogue, a peptidomimetic or non-amide isostere, Z is a synthetic or a biosynthetic amino acid, n is 0-10 and y is 1-10. The cyclic bond is especially a lactam or lactone bond. The thiololatone structure within native AgrD peptides is required for activation of the agr response. Elimination of the thiololatone to structure within native AgrD peptides is required for activation of the cyclic ring structure can destroy agr response activating activity while preserving and enhancing inhibitory activity. A activity while preserving and enhancing inhibitory activity. A claimed method of preparing a cyclic peptide involves: assembling a linear peptide chain on to a solid phase resin support; deprotected peptide with neutral buffer for a time sufficient to deprotected peptide and cleave the peptide is useful for and recovering the cyclic peptide. The peptide is useful for information interference, especially for the treatment of S. aureus
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            This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
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Best Local
                                                                                                                                                                        This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Staphylococcus aureus infection; AgrD; agr response; treatment; virulence factor.
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                             AAM50907 standard;
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Pred. No. 9.3e+05;
1; Mismatches 1;
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Pred. No. 9.3e+05;
1; Mismatches 1;
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(90:5:5) for 4 hr. The partially protected peptide-alpha carboxylates were then dissolved in DMF and treated with PyOP and a catalytic amount of dimethylaminopyridine. Cyclization was complete after 2 hr. The remaining protecting groups were then removed by treatment with HF and the peptide purified by HPIC. The cyclic peptide is capable of inhibiting the agr response of Staphylococcus aureus. The thiololactone structure within native AgrD peptides is required for activation of this response. Replacement of the thiol ester component of the cyclic ring structure with a lactone (as in the present case) or a lactam can destroy agr response activating activity while preserving and cenhancing inhibitory activity. The cyclic peptides are useful for bacterial interference, especially for the treatment of S. aureus
                                                                                                                                                                                                                         The present sequence is that of a protected peptide used in an example of the preparation of novel synthetic cyclic peptides of the invention (see AAM50899-906). The peptide corresponds to the Staphylococcus aureus AgrDII sequence with a Cys5 to Ser mutation (lactone). It was synthesised on a Wang-resin using an Fmoor N-alpha protection strategy. Following chain assembly, the peptide was cleaved from the support and the Ser-5 residue deprotected by treatment with a trilluoroacetic acid:anisole; water maxture
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Muir
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UNIV NEW YORK STATE.
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Query Match Best Local

Similarity

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Score 35; Pred. No.

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GVNAXSALF

Query Match Best Local

Matches

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                                                                              The present sequence is that of a novel synthetic AgrD2 linear thiosater peptide. The peptide is derived from the cyclic AgrD2 peptide of Staphylococus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agrP3 containing a beta-lactamase reporter gene fused to the agrP3 promoter. This allowed activation or inhibition of the agr response to be monitored spectrophotometrically. Unlike an AgrD2 thiololactone cyclic peptide (see AAMS1001), the present peptide was unable to either activate or inhibit the agr response, even when added to cultured cells at um concentrations. The invention provides claimed cyclic peptides (see AAMS10999) and methods for preparing them. The cyclic peptides are useful for infaction interference, especially for the treatment of S. aureus
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Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present sequence is that of a novel synthetic AgrD2 linear free acid peptide. The peptide is derived from the cyclic AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the
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AAM51004 standard; Peptide;
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7; Conserv
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UNIV NEW YORK STATE
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                                                                                                                                                                               GVNAXSALF 9
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Pred. No. 9.3e+05;
1; Mismatches 1
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                                                                                            Interior explice peptide in which residue 5 of the peptide is linked to residue 9 via a lactone bond. The peptide is from an AgrD2 peptide of Staphylococcus aureus group II. AgrD2 is secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthetic peptide was assayed using cultured S. aureus strains containing a beta-lactamase reporter gene fused to the agr3p3 promoter. This allowed activation or inhibition of the agr response to be monitored spectrophotometrically. The lactone Agr3D2 peptide inhibited the agr response in group I. I or III strains. The invention provides claimed cyclic peptides (see AMM50899-906 and AMM50999) and methods for preparing them, cespecially peptides where the cyclic bond is a lactam or lactone bond. The cyclic peptides are useful for bacterial interference, cespecially for the treatment of S. aureus infection.
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                       Novel synthetic, cyclic AgrD-autoinducing peptide for bacterial interference and for treating Staphylococcus aureus infection in
                                                                                                                                                                                                                                                                                                                                                                                                                                      Muir TW,
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1 GYNAXSALF 9
                        Similarity 7; Conser
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77.8%;
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                       Score 35; DB 23;
Pred. No. 9.3e+05;
1; Mismatches 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page 33; 134pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   autoinducer-2 receptor, regui
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Use of autoinducer-2 agonists or antagonists autoinducer-2 receptor, regulating bacterial
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07-DEC-2000; 2000US-254398P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABB07160 standard; peptide;
              Staphylococcus aureus infection; cyclic peptide; AgrD;
                                        S. aureus peptide #1 used for bacterial interference.
                                                                                                                                                                                                                                                                                                             Sequence
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(QUOR-) QUOREX PHARM INC.
(UYTE-) UNIV TECHNOLOGIES
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                                                                    (first entry)
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                                                                                                                                                                                                                                                                   89.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INT
                                                                                                                                                                                                                                                                   Score 35; DB 23;
Pred. No. 9.3e+05
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                                                                                                                                                                                                                                                                                Length 9;
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              agr response;
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This sequence represents a cyclic peptide derived from the Staphylococcus aureus AgrD peptide. The invention relates to AgrD derived peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
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                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                  Staphylococcus aureus infection; AgrD; agr response; treatment; virulence factor.
                                                                                                                                                                                                                                                                                                                                                                                           Staphylococcus aureus AgrDII derived peptide sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New cyclic peptides for treating infections with Staphylococcus aureus
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Pred. No. 9.3e
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24-JUN-1999;

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(NOVI/) NOVICK R P.
(BEAV/) BEAVIS R.
(JIGG/) JI G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
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                                             Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agr response
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  WPI; 2002-681366/73
                                                                                                                                                                                                                24-JUN-1998;
24-JUN-1999;
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                                                                                                                                                                                                                                                                             27-DEC-2001; 2001US-0032950
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide;
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8; Conserv
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                                        Mayville P,
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99US-0339511
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                                             Novick
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                                                                                                                                                                                                                                                                                                                                                                                                         amino acid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 34; DB 21;
Pred. No. 9.3e+05;
1; Mismatches 0;
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                                             Beavis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            infection; antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Beavis
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RESULT 14
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Best Local S
Matches 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New cyclic infections
                                                                                Claim 7;
                                                                                                                                                                                                       WPI; 2002-170774/22.
                                                                                                                                                                                                                                                                                     (UYRQ )
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                                                                                                                         subject
                                                                                                                                        Novel synthetic,
interference and
                                                                                                                                                                                                                                                                                                                                                  24-JUN-1998;
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                                                                                                                                                                                                                                              TW,
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8; Conserva
                                                                                                                                                                                                                                                                                     UNIV ROCKEFELLER.
UNIV NEW YORK STATE.
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                                                                                Column
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Page 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GVNAXSSLF
                                                                                                                                                                                                                                              Mayville P,
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infection; therapy; cyclic.
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                                                                              19; 18pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                        cyclic AgrD-autoinducing peptide for bacterial for treating Staphylococcus aureus infection is
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                                                                                                                                                                                                                                              Novick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "note linked to peptide"
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peptide"
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Pred. No. 9.3e
1; Mismatches
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The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of staphylococcus aureus. It is an AgrD-autoinducing peptide, where

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Staphylococcus

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RESULT 15
AAM50908
ID AAM50
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         controls the synthesis of virulence factor and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NH2-X(n)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COGH other than a thioester bond, where X is an amino acid, an amino acid analogue, a peptidenimetic or non-amide isostere, Z is a synthetic or a biosynthetic amino acid, n is 0-10 and y is 1-10. The cyclic bond biosynthetic amino acid, n is 0-10 and y is 1-10. The cyclic bond is especially a lactam or lactone bond. The thiololactone structure within native AgrD peptides is required for activation of the agr response. Elimination of the thiol ester component of the cyclic ring structure can destroy agr response activating activity while preserving and enhancing inhibitory activity. A claimed method of preparing a cyclic peptide involves: assembling a linear peptide chain on to a solid phase resin support; deprotected peptide with neutral buffer for a time sufficient to form the cyclic peptide and cleave the peptide from the support; and recovering the cyclic peptide. The peptide is useful for infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                         Protected peptide used in cyclic peptide production
                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-MAY-2002
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                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                    antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                 Staphylococcus
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                           24-JUN-1998;
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                                                                               08-JAN-2002
                                                                                                          US6337385-B1
                                                                                                                                                                                                                                 Modified-site
(UYRQ ) UNIV
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 ROCKEFELLER
                                                                                                                                                                                                                                                                                                                                                                                 aureus; AgrD; agr response; inhibitor; antibiotic;
infection; therapy; cyclic.
                           98US-090402P
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    peptide"
                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
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                                                                                                                                                                                                                                              /note= "Ser(Bz1)"
                                                                                                                                                                                                                                                                        /label= Dpr(Boc)
                                                                                                                                                                                                                    note= "Ser(Bzl)"
                                                                                                                                                                                                                                                                                                     note= "Z-Gly"
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                                                                                                                                                                                       "note linked
                                                                                                                                                                          peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 34; DB 23;
Pred. No. 9.3e+05;
1; Mismatches 0
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Search completed: January 29, Job time: 36.0735 secs

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GVNAXSALF

Gaps

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CC using an Fmoc N-alpha protection strategy. Following chain assembly, ct the peptide was cleaved from the support and the Dpr-5 residue constructed by treatment with a trifluoroacetic acid:annisole:water CC deprotected by treatment with a trifluoroacetic acid:annisole:water CC mixture (90:5:5) for 4 hr. The partially protected peptide-alpha construction was complete after 2 hr. The remaining protecting groups CC Cyclization was complete after 2 hr. The remaining protecting groups CC were removed by treatment with HF and the peptide purified by HPLC. CC The cyclic peptide is capable of inhibiting the agr response of Staphylococcus aureus. The thiololactone structure within mative CC AgrD peptides is required for activation of this response. CC Replacement of the thiol ester component of the cyclic ring CC structure with a lactam (as in the present case) or a lactone can CC destroy agr response activating activity while preserving and cenhancing inhibitory activity. The cyclic peptides are useful for lactorial interference, especially for the treatment of S. aureus
Query Match
Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present sequence is that of a protected peptide used in an example of the preparation of novel synthetic cyclic peptides of the invention (see AAM5089-906). The peptide corresponds to the Staphylococcus aureus AgrDII sequence with a Cys5 to diaminopropionic acid (Dpr) mutation (lactam). It was synthesised on a Wang-resin acid (Dpr) mutation (lactam).
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1; Mismatches 0;
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1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
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  GVNAXSALF 9
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Thes 6; Conservative

82.1%; Score 32; DB 66.7%; Pred. No. 13; vative 2; Mismatches

2; Length 382; 1; Indels

0

Gaps

0

RESULT 2 A28067 A28067 A280667 Ilysosomal membrane glycoprotein LAWP-1 - mouse C;Species: Mus musculus (house mouse) C;Jate: 30-Sep-1989 #sequence_revision 30-Sep-1989 #tex C;Accession: A28067 C;Chen, J. W.; Cha., Y.; Yuksel, K.U.; Gracy, R.W.; Augus J. Biol. Chem. 23, 8754-8758, 1988 A;Title: Isolation and sequencing of a CDNA clone encod A;Title: Isolation and sequencing of a CDNA clone encod A;Reference number: A28067; MUID:88243732; PMID:3379044 A;Accession: A28067 A;Accession: A28067 A;Cross-references: GB:J03881; NID:g198706; PIDN:AAA394 A;Cross-references: GB:J03881; NID:g1987	Query Match Best Local Similarity 77.8%; Pred. No. 0.87; Matches 7; Conservative 1; Mismatches 1; Qy 1 GVNAXSALF 9	28 71.8 341 2 G89996 31 28 71.8 346 2 F69786 32 28 71.8 389 1 S36653 32 28 71.8 389 2 S81286 34 28 71.8 489 1 WMRE42 36 28 71.8 491 2 D95366 37 28 71.8 542 2 A32260 38 72.8 71.8 542 2 A32260 38 71.8 655 2 G89189 39 28 71.8 655 2 G89189 31 28 71.8 832 2 S46706 32 28 71.8 832 2 S46706 32 28 71.8 870 2 S74291 33 28 71.8 870 2 S74291 34 28 71.8 870 2 S74291 35 28 71.8 1844 1 RRWPTM ALIGNMENTS ALIGNMENTS Protein [imported] - Staphylococcus aureus seies: Staphylococcus aureus esies: Staphylococcus aureus protein [imported] - Staphylococcus aureus esies: Staphylococcus aureus esies: Staphylococcus aureus protein [imported] - Staphylococcus aureus seies: Staphylococcus aureus esies: Staphylococcus aureus fer i 10-May-2001 #sequence_revision 10-May-2001 #sequence_revision 10-May-2001 #sesion: C89995 sesion: C89995 sesion: C89995 sesion: C89995 sesion: C9995 sesion
text_change 20-Aug-1999 igust, J.T. cooding lysosomal membrane glycopr 1044 139411.1; PID:g293692 130due 1 as Leu and CCG for residue	ength 47; Indels 0; Gaps 0;	. 43

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A;Molecule type: mRNA, A;Moslecule type: mRNA, A;Residues: 22-407 < HIM> A;Residues: 22-407 < HIM> A;Residues: 22-607 < HIM> A;Cooss-references: EMBL:X14765; NID:g56577; PIDN:CAA32873.1; PID:g56578 A;Note: part of this sequence, including the amino end of the mature protein, C;Superfamily: lysosome-associated membrane protein C;Superfamily: lysosome-associated membrane protein C;Keywords: glycoprotein; membrane protein C;Keywords: glycoprotein, 107K #status experimental < F;22-407/Product: lysosomal membrane glycoprotein, 107K #status experimental <
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Howe, C.L.; Granger, B.L.; Hull, M.; Green, S.A.; Gabel, C.A.; Helenius, A.; Mellman, Proc. Natl. Acad. Sci. U.S.A. 85, 7577-7581, 1988
A;Title: Derived protein sequence, oligosaccharides, and membrane insertion of the 120-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120K lysosomal membrane glycoprotein precursor N;Alternate names: sialoglycoprotein C;Species: Rattus norvegicus (Norway rat)
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R;Heffernan, M, Yousefi, S.; Dennis, J.W.
Cancer Res. 49, 6077-6084, 1989
A;Title: Molecular characterization of P2B/LAMP-1, a major protein target A;Reference number: A60534; MUID:90002989; PMID:2676155
A;Accession: A60534
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A; Residues: 1-407 < HOW>
A; Residues: 1-407 < HOW>
A; Cross-references: EMBL: J03672
A; Cross-references: EMBL: J03672
A; Note: the authors translated the codon GGG for residue 15 as
R; Himeno, M.; Noguchi, Y.; Sasaki, H.; Tanaka, Y.; Furuno, K.;
FEBS Lett. 244, 351-356, 1989
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A;Molecule type: mRNA
A;Residues: 1-405 <HEF>
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A;Title: Isolation and sequencing of a cDNA clone encoding 107 kDa sialoglycoprotein in A;Reference number: $03331; MUID:89153580; PMID:2920835
A;Accession: $03331
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C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 03-May-1996
C;Species:
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                            ferrichrome ABC transporter (permease) homolog yfmD - Bacillus subtilis
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alpha-mannosidase (EC C;Species: Emericella

3.2.1.24) - Emericella nidulans nidulans, Aspergillus nidulans

RESULT

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C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 16-Jun-2000 C;Accession: C69812 R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Beri C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; (C.; Bron, S.); Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, I Nature 390, 249-256, 1997

A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galizch, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M. Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardino: K.; Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mau, Y. M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Fark, S.H.; Parro, V.; Pohl, T.M.; Portete, R.; Geger, M.; Rivelta, C.; Rocha, E.; Roche, B.; Rose, M.; Saddie, Y.; Sato, T.; Scanid, A.; Outhyan, T.; Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Se, A.; Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Scoffone, F.; Scoffone, F.; Scoffone, F.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Scoffone, F.; Scof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   manganese transport protein all7601 [imported] - Nostoc sp. (strain PCC 7120) plasmid C;Species: Nostoc sp. PCC 7120 A;Note: Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120 C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002 C;Accession: AF2539
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C;Superfamily: natural resistance-associated macrophage protein
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A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium A;Reference number: AB1807; MUID:21595285; PMID:11759840
A;Accession: AF2539
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DNA Res. 8, 205-213, 200
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A;Experimental source: strain PCC 7120
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A;Experimental source: strain 1
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                                                                                                                                                                 Score 31;
Pred. No.
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Pred. No.
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, M.; Yasuda, M.;
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C;Date: 22-Oct-
C;Accession: T3
R;Eades, C.J.;
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                                                                                                                                                                                                                                                                      hypothetical protein F45H11.1 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: Identification of genes involved: A;Reference number: S60885; MUID:95191405; A;Accession: S60885
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A;Molecule type: DNA
A;Residues: 1-1049 <EAD>
A;Cross-references: EMBL:AF016850; NID:g2407175; PII
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A;Title: Identification and analysis of a class 2 alpha-mannosidase
A;Reference number: Z20843; MUID:98119762; PMID:9451011
                                                      A; Map position:
                                                                     A; Gene: CESP: F45H11.1
                                                                                                        A;Cross-references: EMBL:Z78420; PIDN:CAB01709.1; GSPDB:GN00019; CESP:F45H11.1 A;Experimental source: clone F45H11
                                                                                                                                                                                            submitted to the EMBL Data Library, A;Reference number: Z19537
A;Accession: T22250
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A;Residues: 1-234 <FIS>
A;Cross-references: EMB
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C;Keywords: glycosidase; hydrolase
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                                                                                                                                                        A; Molecule type: DNA
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                                                                                                                                           A;Residues: 1-298 <WIL>
                                                                                                                                                                         Status: preliminary; translated from GB/EMBL/DDBJ
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nilarity 55.6%;
Conservative
                                   109/2;
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                                   177/3; 248/1; 290/3
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Pred. No. 23;
3; Mismatches
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RESULT

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Riwood, D.W.; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; Wood, G.E.; Chen, Y.; erage, G.; Gillet, W.; Grant, C.; Guenthner, D.; Kutyavin, T.; Levy, R.; Li, M.; M.; Karp, P.; Romero, P.; Zhang, S. Science 294, 2317-2323, 2001
A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-
                                                                                                                                                                               A;BCEAUGE type: DNA
A;Rolecule type: DNA
A;Residues: 1-533 <KUR>
A;Cross-references: GB:BA000019; PIDN:BAB75881.1; PID:g17133317; GSPDB:GN00179
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AD3198
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DNA Res. 8, 205-213, 208-201
A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing
A;Reference number: AB1807; MUID:21595285; PMID:11759840
                                                                                                                                                                                                                                                                                                                                                                                                                                           2,3-bisphosphoglycerate-independent phosphoglycerate mutase [imported] - Nostoc C;Species: Nostoc sp. PCC 7120
A;Note: Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120
C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002
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A;Title: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens C58
A;Reference number: AB2577; MUID:21608550; PMID:11743193
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Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, N
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A; Residues: 1-361 <KUR>
A; Cross-references: GB:AE008687; PIDN:AAL46002.1; PID:g17743757; GSPDB:GN00188
A;Experimental source: strain C58 (Dupont)
                                                                                                                                                                                                                                                                                           A;Status: preliminary
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Pred. No. 53;
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M.; Yamada,
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, M.; Yasuda,
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R;Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji, F.; Nucleic Acids Res. 28, 4317-4331, 2000
A;Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans A;Reference number: A33650; MUID:20512582; PMID:11058132
A;Accession: G84041
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A;Molecule type: DNA
A;Residues: 1-188 <STO>
A;Cross-references: GB:AP001517; GB:BA000004; NID:g10175500; PIDN:BAB06854.1; GSPDB:GN00
                                                                                                                                                                               PhnP protein [imported] - Yersinia pestis (strain CO92)
c;Species: Yersinia pestis
C;Species: Yersinia pestis
C;Date: 02-Nov-2001 #sequence_revision 02-Nov-2001 #text_change 09-Dec-2002
C;Accession: AB0421
R;Parkhill, J; Wren, B.W.; Thomson, N.R.; Titbail, R.W.; Holden, M.T.G.; P;
deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.;
il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead,
Nature 413, 523-527, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein BH3135 [imported] - Bacillus halodurans (strain C-125) C;Species: Bacillus halodurans C;Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 15-Jun-2001 C;Accession: GB4041
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A;Authors: Wallin, E.; Hayes, W.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser, C A;Title: The complete genome sequence of the gastric pathogen Helicobacter pylori. A;Reference number: A64520; MUID:97394467; PMID:9252185
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R;Tomb, J.F.; White, O.; Kerlavage, A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, R. Peterson, S.; Loftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McKenson, J.D.; Kelley, J.M.; Cotton, M.D.; Weidman, J.M.; Fujii, C.; Bowman, C.; Watthey,
A;Cross-references: GB:AL590842; PIDN:CAC92694.1; PID:g15981389; GSPDB:GN00175
C;Genetics:
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                                                                                                            Title: Genome sequence of Yersinia pestis, the causative agent of plague; Reference number: AB0001; MUID:21470413; PMID:11586360; AB0421
                                              ;Molecule type: DNA
;Residues: 1-250 <KUR>
                                                                                      Status: preliminary
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Search completed: January 29, Job time : 12.1176 secs

2004, 14:58:23

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A;Molecule type: DNA
A;Residues: 1-255 <GLA>
A;Residues: 1-255 <GLA>
A;Cross-references: GB:NC_003210; PIDN:CAC98754.1; PID:g16410065; GSPDB:GN00177
A;Experimental source: strain EGD-e
C;Genetics:
                                                                                                                                                                                                                                                                              Science 294, 849-852, 2001
A; Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehla A;Title: Comparative genomics of Listeria species.
A;Reference number: AB1077; MUID:21537279; PMID:11679669
A;Accession: AD1159
                                                                                                                                                                                                                                                                                                                                                                                                    flagellar biosynthesic protein FliP homolog lmo0676 (imported) - Listeria monocytogen
C;Species: Listeria monocytogenes
C;Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 14-Dec-2001
C;Accession: AD1159
R;Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Bloec
; Dominguez-Bernal, L.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Fsihi,
D.; Jones T. M.; Karet T.
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C; Superfamily: ATP-binding protein PhnP
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C; Superfamily:
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RECO VIBVU
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KSSE SCIGLI
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VPAP HSV11
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p1456 rattus norv
O8zsbo anabaena sp
O80p12 anabaena sp
O90655 gallus gall
O90681 schizosacic
O8674 vibrio vuln
O9hrf0 halobacteri
O05518 bacillus su
P42518 escherichia
P49129 cricetulus
P44565 haemophilus
P10266 kreptens simp
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P39816 bacillus su
P25631 saccharomyc
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P25632 saccharomyc
P303781 saccharomyc
P30482 saccharomyc
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P30581 turnip yell
P20677 turnip yell
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P20787 escherichia
P83004 fagopyrum e
P82151 archaeoglob
O29511 archaeoglob
O39522 synechococc
P73033 synechococc
P76037 escherichia
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083058	P42510	P16670	Q00479	P00110	Q61001	Q24803	P05882	P44647	Q9ksw1	025781	Q9zk49
treponema p	pseudomonas	rhodobacter	cymbidium m	bumilleriop	mus musculu	entamoeba h	human immun	haemophilus	vibrio chol	helicobacte	helicobacte

ALIGNMENTS

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SWISS-PROT entry is copyright. It is produced through a colleen the Swiss Institute of Bioinformatics and the EMBI out European Bioinformatics Institute. There are no restriction by non-profit institutions as long as its content is in fied and this statement is not removed. Usage by and for cries requires a license agreement (See http://www.isb-sib.ch/	-!- PTM: O- AND N-GLYCOSYLATED; SOME OF THE N-GLYCANS ATTACHED TO LAWE-1 ARE POLYLACTOSAMINOGLYCANS (BY SIMILARITY)!- SIMILARITY: BELONGS TO THE LAMP FAMILY.	-!- FUNCTION: PRESENTS CARBOHYDRATE LIGAMDS TO SELECTINE. ALSO INPLICATED IN TUNOR CELL METASTASIS!- SUBCELLULAR LOCATION: Type I membrane protein. Lysosomal. THIS PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOSOMES, AND THE PLASMA MEMBRANE.	ULFIDE BONDS. LINE=90237040; PubMed=2332434; erburn L.M., Earles B.J., August J.T.; erburn L.M., Earles B.J., August J.T.; et al., Earles B.J., August J.T.; et al., Earles B.J., August J.T.; tein 1.", ben 1.", chem. 265:7419-7423(1990). ET ALECTION. ET ALECTION. ET ALECTION.	SEQUENCE OF 25-406 FROM N.A.; AND PARTIAL SEQUENCE. SEQUENCE OF 25-406 FROM N.A.; AND PARTIAL SEQUENCE. SEQUENCE OF 25-406 FROM N.A.; AND PARTIAL SEQUENCE. Chen J.W., Cha Y., Yuksel K.U., Gracy R.W., August J.T.; Chen J.W., Cha Y., Yuksel K.U., Gracy R.W., August J.T.; Chen J.W., Cha Y., Yuksel K.U., Gracy R.W., August J.T.; Chen J.W., Yuksel K.U., Gracy R.W., August J.T.; Chen J.W., Yuksel K.U., Gracy R.W., August J.T.; Chen J.W., Yuksel K.U., Gracy R.W., August J.T.; Sequence similarity to proteins bearing onco-differentiation antigens."; J. Biol. Chem. 263:8754-8758(1988).	[2] SEQUENCE FROM N.A. Heffernan M., Yousefi S., Dennis J.W.; Submitted (FEB-1990) to the EMBL/GenBank/DDBJ databases.	SEQUENCE FROM N.A. MEDLINE=90307738; PubMed=2142158; Granger B.L., Green S.A., Gabel C.A., Howe C.L., Mellman I., Helenius A.; "Characterization and cloning of lgpl10, a lysosomal membrane "Characterization mouse and ret cells.", glycoprotein from mouse and ret cells.", J. Biol. Chem. 265:12036-12043(1990).	LAMPI OK LAMP-1. Mus musculus (Mouse). Mus musculus (Mouse). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. NCBI TaxID=10090; 111	. 12, Created) . 15, Last sequences, 35, Last annoted membrane glass, (P2B).	

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RESULT 2
IMP1 RAT STANDARD; PRT; 407 AA.

ID LMP1 RAT STANDARD; PRT; 407 AA.

P14562; P97620;
DT 01-JAN-1990 (Rel. 13, Created)
DT 01-JAN-1990 (Rel. 13, Last sequence update)
DT 01-JAN-1990 (Rel. 35, Last annotation update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
LYSOSOME-ASSOCIATED membrane glycoprotein 1 precursor (LAMP-1) (120 LYSOSOMEA MEMBRANE GLYCOPTOTEIN) (LGP-120) (CD107A).

Ratus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Mammalia, Eutheria; Rodentia; Sciurognathi; Murinae; Rattu OX NCBI_TaxID=10116;
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EMBL; M25244; AAA39869.1; -.

EMBL; M25244; AAA39411.1; -.

PIK; A20067; AAA39411.1; -.

PIK; A20067; A28067.

PIK; A20067; A28067.

PIK; A20067; Lamp1.

InterPro; IPR002000; Lamp.

Pfam; PF01299; Lamp; 1.

PFANNTS; PR00336; LXSASSCCTDMP.

PROSITE; PS00310; LAMP 1; 2.

PROSITE; PS00311; LAMP 2; 1.

PROSITE; PS00311; LAMP 2; 1.

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                           Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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66.7%;
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CYTOPLASMIC (POTENTIAL).
FIRST LUMENAL DOMAIN.
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SECOND LUMENAL DOMAIN.
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Pred. No. 6.5;
2; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               [1]
SEQUENCE FROM N.A.
MEDLINE=89017240; PubMed=3174652;
Grander B.L., Hull M.,
                                                                       CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EVBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Adams L.A., Werny I., Schwartz S.M.;
Submitted (OCT-1996) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: PRESENTS CARBOHYDRATE LIGANDS TO SELECTINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Isolation and sequencing of a sialoglycoprotein in rat liver FEBS Lett. 244:351-356(1989).
                                                                                                                                                                               DOMAIN
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EMBL; X14765; CAA32873.1; -.
EMBL; U75406; AAB19108.1; -.
PIR; A30200; A30200.
                                                                                                                                                                                                                                                                                                                        InterPro; IPR002000; Lamp. Pfam; PF01299; Lamp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 22-407 FROM N.A.
SEQUENCE=89153580; PubMed=2920835;
Himeno M., Noguchi Y., Sasaki H.,
                                                            CARBOHYD
                                                                                                                                                                                                                                                                                       PROSITE; PS00310; LAMP_1; PROSITE; PS00311; LAMP_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=Wistar Kyoto; TISSUE=Aortic smooth muscle, Adams L.A., Werny I., Schwartz S.M.;
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Sakaki Y.,
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Mellman I.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EQUENCE OF 283-357 FROM N.A.
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THIS PROTEIN SHUTTLES BETWEEN
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  ; Glycoprotein; l
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  407
LUMENAL (POTENTIAL).

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N-LINKED (GLCNAC...)

N-LINKED (GLCNAC...)
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N LYSOSOMES, ENDOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F THE N-GLYCANS ATTACHED (BY SIMILARITY).
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28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation updat
Probable manganese transport protein mntH.
MNTH OR ALL7601.
TRANSMEM TRANSMEM
                                     Complete
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                                                                                                                                                                                                                                                       use by non-profit institutions as long modified and this statement is not removed entities requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Complete genomic sequence of the filamentous nitrogen-fixing cyanobacterium Anabaena sp. strain PCC 7120."; DNA Res. 8:205-213(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Watanabe A., Iriguchi M., Ishikawa A., Kawashima I
Kishida Y., Kohara M., Matsumoto M., Matsuno A., N
Nakazaki N., Shimpo S., Sugimoto M., Takazawa M.,
Yasuda M., Tabata S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=21595285; PubMed=11759840;
Kaneko T., Nakamura Y., Wolk C.P.,
Watanabe A., Iriguchi M., Ishikawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Anabaena sp. (strain PCC 7120).
Plasmid pCC7120beta.
Bacteria; Cyanobacteria; Nostocales; Nostocaceae; Nostoc.
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InterPro; IPR001046; Nramp.
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ProDom; PD001861; Nramp; 1.
TIGRFAMs; TIGR01197; nramp; 1.
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                                                                                                                                                                                                                     EMBL; AP003602; BAB77244.1;
                                                                       Fransport;
                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS TO THE NRAMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                               system (By similarity).
SUBCELLULAR LOCATION: I
(Probable).
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                                                                     GIGR01197; nramp; 1.
Symport; Manganese;
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106
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ima K., Kimura T.,
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                                                                         Inner membrane;
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Yamada M.,
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PIR, AG2328, AG2328

DR HAMAP, MF_01038; .; 1.

DR InterPro, IPR005995, Pgm_bpd_ind.

Pfam; PF01676; Metalloenzyme; 1.

Pfam; PF01676; Metalloenzyme; 1.

"Nom, PD004429; Pgm_bpd_ind; 1.

"Nom; PT01676; Metalloenzyme; 1.

"Starting InterPro, IPR005995; Pgm_bpd_ind; 1.

"Starting InterPro, IPR005995; Pgm_bpd_ind; 1.

"Nom; PF01676; Metalloenzyme; 1.

"HAMAPI MANGANESE 2 (BY SIMILARITY).

MANGANESE 2 (BY SIMILARITY).
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Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,
Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,
Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,
Kishida Y., Kohara M., Matsumoto M., Matsuno A., Muraki A.,
Nakazaki N., Shimpo S., Sugimoto M., Takazawa M., Yamada M.,
Yasuda M., Tabata S.;
"Complete genomic sequence of the filamentous nitrogen-fixing
cyanobacterium Anabaena sp. strain PCC 7120.";
DNA Res. 8:205-213(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the the European Bioinformatics Institute. There are no rest use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Anabaena sp. (strain PCC 7120).
Bacteria; Cyanobacteria; Nostocales;
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28-PEB-2003 (Rel. 41, Last sequence update)
28-PEB-2003 (Rel. 41, Last annotation update)
28-PEB-2003 (Rel. 41, Last annotation update)
28-PEB-2003 (Rel. 41, Last annotation update)
28-PEB-2003 (Rel. 41, Last sequence update)
29-PEB-2003 (Rel. 41, Last sequence update)
29-PEB-2003 (Rel. 41, Created)
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SMART; SM00389; HCX; 1.
SROSITE; PS00027; HOMEOBOX 1; FALSE_NEG
PROSITE; PS50071; HOMEOBOX 2; 1.
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InterPro; IPR001356; Homeobox.
Pfam; PF00046; homeobox; 1.
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REPRESS ITS TRANSCRIPTION.
-i- SUBCELLULAR LOCATION: Nuclear.
-i- SIMILARITY: BELONGS TO THE TAL
-i- SIMILARITY: Contains 1 homeobo
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01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 41, Last annotation update)
Homeodomain protein AKR (Avian knotted-related Gallus gallus (Chicken)
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RR MEDLINE-21848401; PubMed=11859360;
RR MOOD V., Gwilliam R., Rajandream M.A., Lyne M., Lyne R., Stewart A.,
RA MOOD V., Gwilliam R., Rajandream M.A., Lyne M., Lyne R., Stewart A.,
RA Sgouros J., Peat N., Hayles J., Baker S., Basham D., Bowman S.,
RA Sgouros J., Peat N., Hayles J., Chillingworth T., Churcher C.M.,
RA Brooks K., Brown D., Brown S., Chillingworth T., Churcher C.M.,
RA Collins M., Connor R., Cronin A., Davis P., Feltwell T., Fraser A.,
RA Gollins M., Connor R., Cronin A., Davis P., Hidalgo J., Hodgson G.,
RA Gollins M., Connor M., Harris D., Hidalgo J., Hodgson G.,
RA Holroyd S., Hornsby T., Howarth S., Huckle B.J., Hunt S., Jagels K.,
RA Holroyd S., Hornsby T., Howarth S., Huckle B.J., Hunt S., Jagels K.,
RA Holroyd S., Hornsby T., Howarth S., McDonald S., McLean J.,
RA Oliver K., O'Neil S., Pearson D., Quail M.A., Rabbinowitsch E.,
RA Goller K., Rutter S., Saunders D., Seeger K., Sharp S.,
RA Rutherford K., Rutter S., Saunders D., Seeger K., Sharp S.,
RA Raylor K., Taylor R.G., Tivey A., Walsh S.V., Warren T., Whitehead S.,
RA Welljens I., Vanstreels E., Aert R., Robben J., Grymonprez B.,
RA Welljens I., Vanstreels E., Rieger M., Schaeter M., Mueller Auer S.,
RA Gabel C., Fuchs M., Fritzc C., Holzer E., Moestl D., Hilbert H.,
RA Gorgen A., Cadieu E., Dreano S., Gloux S., Lelaure V., Mottier S.,
RA Gallbert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Gallbert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,
RA Daga R.R., Cruzado L., Jimenez J., Sanchez M., Gel Rey F., Benito J.,
RA Dominguez A., Revuelta J.L., Moreno S., Armstrong J., Forsburg S.L.,
RA Daga R.R., Cruzado L., Jimenez J., Sanchez M., Gel Rey F., Benito J.,
RA Speaker M., Rochet M., Gallardin C., Tallada V.A., Garzon A., Thode G.,
RA Daga R.R., Cruzado L., Jimenez J., Sanchez M., Gel Rey F., Benito J.,
RA Speaker M., Rochet M., Gel W.R., Paulsen I., Potashkin J.,
RE SUBCELLULAR LOCATION: Type II membrane protein. Golgi (Potential).
C. - SUBCELLULAR LOCATION: Type II membrane protein.
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01-NOV-1995 (Rel. 32, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Putative glycosyl transferase C5H10.13c in ch.
SPAC5H10.13C.
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                                                                                                                                                                                                                                                                                                                                                                   GeneDB_SPombe; SPAC5H10.13c; -.
Hypothetical protein; Transferase; Glycosyltransferase;
Signal-anchor; Golgi stack; Glycoprotein.
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                                                                                                                                                                                                                                                                                                                                                                                                               Transmembrane,
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RESULT 8

RECO_VIBVU

ID RECO_VIBVU STANDARD; PRT; 243 AA.

AC QBDC74;

DT 15-SEP-2003 (Rel. 42, Created)

DT 15-SEP-2003 (Rel. 42, Last sequence update)

DT 15-SEP-2003 (Rel. 42, Last annotation update)

DT 15-SEP-2003 (Rel. 42, Last annotation update)

DE DNA repair protein recO (Recombination protein O)

GN RECO OR VV11567.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AE011278; AAN48143.1; --.
HAMAP; MF 00003; -; 1.
Pfam; PF02033; RBFA; 1.
ProDom; PD007327; RLb_bind_fact
TIGREAMS; TIGR00082; FbfA; 1.
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or send a
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MEDLINE=22598143; PubMed=12712204;

Ren S.-X., Fu G., Jiang X.-G., Zeng R., Miao Y.-G., Xu H.,

Zhang Y.-X., Xiong H., Lu G., Lu L.-F., Jiang H.-Q., Jia J., Tu Y.-F.,

Jiang J.-X., Gu W.-Y., Zhang Y.-Q., Cai Z., Sheng H.-H., Yin H.-F.,

Jiang J.-X., Gu W.-Y., Zhang Y.-Q., Cai Z., Sheng H.-H., Yin H.-F.,

Jiang J.-X., Gu M.-Y., Diang B.-Q., Xia Q.-C., Guo X.-X., Danchin A.,

Yao Z.-J., Shen Y., Qiang B.-Q., Xia Q.-C., Guo X.-X., Danchin A.,

Saint Girons I., Somerville R.L., Wen Y.-M., Shi M.-H., Chen Z.,

Xu J.-G., Zhao G.-P.;

Xu J.-G., Zhao G.-P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RBFA_LEPIN
Q8F7K0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Leptospira interrogans.
Bacteria; Spirochaetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rRNA processing; Complete proteome SEQUENCE 117 AA; 13252 MW; D30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    modified
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STRAIN=56601 / Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIGRFAMS; TIGR00082; rbfA; PROSITE; PS01319; RBFA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the EW Buropean Bioinformatics Institute. There are no restr by non-profit institutions as long as its content by non-profit institutions as long as its content ified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: Associates with free 30S ribosomal subunits (but not with 30S subunits that are part of 70S ribosomes or polysomes). Essential for efficient processing of 16S rRNA. May interact with the 5'terminal helix region of 16S rRNA (By similarity). SUBCELLULAR LOCATION: Cycoplasmic (Potential). SIMILARITY: BELONGS TO THE RBFA FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          243
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5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GVNAXSALF 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 28; DB
Pred. No. 15;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D304576BE60DEB89 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1; Length 117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ã
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strictions on its
t is in no way
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                                                                                   Query Match
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HAWAP; MF 00201; -; 1.

InterPro; IPR003717; RecO.

Pfam; PF02565; RecO; 1.

DNA repair; DNA recombination; C

SEQUENCE 243 AA; 27570 MW; 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Halobacterium sp. (strain NRC-1 / ATCC
Archaea; Euryarchaeota; Halobacteria;
Halobacteriaceae; Halobacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-FSB-2003 (Rel. 41, Created)
28-FSB-2003 (Rel. 41, Last sequence update)
28-FSB-2003 (Rel. 41, Last annotation update)
Putative 2-dehydropantoate 2-reductase (EC 1.
Treductase) (KPA reductase) (KPR).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Complete genome sequence of Vibrio vulnificus CMCP6.";
Submitted (DEC-2002) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacteria; Proteobacteria;
Vibrionaceae; Vibrio.
NCBI TaxID=672;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rhee J.H.,
Choy H.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement (See http:\vec{J}/www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- SIMILARITY: BELONGS TO THE RECO FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- FUNCTION: Involved in
(By similarity).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=64091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PANE_HALNI
  PATHMAY: Pantothenate blosynthesis.
SUBCELLULAR LOCATION: Cytoplasmic (Potential).
SIMILARITY: BELONGS TO THE KETOPANTOATE REDUCTASE
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5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA repair
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 28; DB 1
Pred. No. 33;
2; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCC 700922 / JCM 11
ria; Halobacteriales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and recF
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                                                                                             2-dehydropantoate
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                                                                                                                                             of ketopantoate
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     W. MEDLINE-98044033; PubMed=9384377;

W. MEDLINE-98044033; PubMed=9384377;

W. Kunst F., Ogasawara N., Moszer I., Albertini A.M., Alloni G.,

A Azevedo V., Bertero M.G., Bessieres P., Bolotin A., Borchert S.,

R. Borriss R., Bourster L., Brans A., Braun M., Brignell S.C., Bron S.,

Choi S.K., Codani J.J., Connerton I.F., Cummings N.J., Daniel R.A.,

Denizot F., Devine K.M., Dusterhoft A., Ehrlich S.D., Emmerson P.T.,

A Denizot F., Devine K.M., Dusterhoft A., Ehrlich S.D., Emmerson P.T.,

Pritz C., Fujita M., Fujita Y., Fuma S., Galizzi A., Galleron N.,

A Ghim S.Y., Glaser P., Goffeau A., Golightly E.J., Grandi G.,

A Guiseppi G., Guy B.J., Haga K., Haiech J., Harwood C.R., Henaut A.,

Hilbert H., Holsappel S., Hosono S., Hullo M.F., Itaya M., Jones L.,

Joris B., Karamata D., Kasahara Y., Klaerr-Blanchard M., Klein C.,

Kobayashi Y., Koetter P., Koningstein G., Krogh S., Kumano M.,

A Kurita K., Lapidus A., Lardnois S., Lauber J., Lazarevic V.,

Kakana N., Leine A., Liu H., Masuda S., Mauel C., Medigue C.,

Medina N., Mellado R.P., Miznno M., Mosstl D., Makai S., Noback M.,

Noone D., O'Reilly M., Ogawa K., Ogiwara A., Oudega B., Park S.H.,
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005518;
15-JUL-1998
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                                                                                                                                                                                                                                                                                                                                             "Nucleotide sequence and analysis of the Bacillus subtilis chromosome."; Microbiology 143:1861-1866(1997).
                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=168 / JH642;
MEDLINE=97346038; PubMed=9202461;
Sadaie Y., Yata K., Fujita M., Sagai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AE005017; AAG19208.1; -. PEIR; D84230; D84230. INFO03710; ApbA. INFO0358; ApbA; 1. TIGREPAMS; TIGRO0745; apbA panE; 1. Hypothetical protein; Pantothenate Hypothetical protein; Pantothenate
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillus subtilis.
Bacteria; Firmicutes;
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GINAATAL 198
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Pred. No. 42;
2; Mismatches
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STRAIN=K5;
MEDLIND=93388530; PubMed=8397187;
MEDLIND=93388530; PubMed=8397187;
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Presecan E., Pujic P., Purnelle B., Rapoport G., Rey M., Raynolds S.,
Rieger M., Rivolta C., Rocha E., Roche B., Rose M., Sadaie Y.,
Sato T., Scanlan E., Schleich S., Schroeter R., Scoffone F.,
Sekiguchi J., Sekowska A., Seror S.J., Serror P., Shin B.S., Soldo B.,
Sorokin A., Tacconi E., Takagi T., Takahashi H., Takemaru K.,
Takeuchi M., Tamakoshi A., Tanaka T., Terpstra P., Tognoni A.,
Tosato V., Uchiyama S., Vandenbol M., Vannier F., Vassarotti A.,
Viari A., Wambutt R., Wedler E., Wedler H., Watzenegger T.,
Winters P., Wipat A., Yamamoto H., Yamane K., Yasumoto K., Yata K.,
Yoshida K., Yoshikawa H.F., Zumstein E., Yoshikawa H., Danchin A.;
"The complete genome sequence of the Gram-positive bacterium Bacillus"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Subtilist; BG12202; gcp.
InterPro; IPRO00905; Peptidase M22.
Pfam; PF00814; Peptidase M22; I.
PRINTS; PR00799; OSIALOPTASE.
PRODOM; PD003367; Peptidase_M22; 1.
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EMBL; Z99107; CAB12413.1; -.
PIR; F69786; F69786.
MEROPS; M22.UPW; -.
                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                           Enterobacteriaceae;
NCBI_TaxID=562;
                                                                                                                                                                                                                 Bacteria; Proteobacteria;
                                                                                                                                                                                                                                            Escherichia coli
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METAL 121 121 ZINC (POTENTIAL)
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PROSITE; PS01016; GLYCOPROTEASE; 1.
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CATALYTIC ACTIVITY: Hydrolysis of O-sialoglycoproteins;

31-Arg-|-Asp-32 bond in glycophorin A. Does not cleave
unglycosylated proteins, desialylated glycoproteins or
glycoproteins that are only N-glycosylated.

COPACTOR: ZINC (PROBABLE).

SIMILARITY: BELONGS TO PEPTIDASE FAMILY M22.
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polysaccharide export protein
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346 AA;
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36842 MW;
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SEQUENCE FROM N.A.

MEDLINE=97021428; PubMed=8867788;

Uthayakumar S., Granger B.L.;

"Cell surface accumulation of overexpressed hamster membrane glycoproteins.";

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or send a
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modified
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_CRIGR
EMBL; L18986; AAC37682.1; -.
InterPro; IPR002000; Lamp.
Pfam; PF01299; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP
PROSITE; PS00310; LAMP_1; 2.
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Eukaryota; Metazoa; Chordata; Craniat
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Polysaccharide transport; Transport.
SEQUENCE 389 AA; 46381 NW; 73058122C28027DE
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J. Bacteriol. 175:5978-5983(1993).
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"Molecular analysis
gene cluster: a regi
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               I. MOI. Biol. Res. 41:405-420(1995).
FUNCTION: PRESENTS CARBOHYDRATE LIGANDS TO SELECTINS.
INFLICATED IN TUMOR CELL METASTASIS (BY SINLIARITY).
SUBCELLULAR LOCATION: Type I membrane protein. Lysosom
THIS PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOSOMES, AN
MEMBRANE (BY SIMILARITY).
                                                                                                                                                                                                                                s SWISS-PROT entry is copyright. It is produced through a cween the Swiss Institute of Bioinformatics and the EMBL Buropean Bioinformatics Institute. There are no restrict by non-profit institutions as long as its content is ified and this statement is not removed. Usage by and foities requires a license agreement (See http://www.isb-sib.send an email to license@isb-sib.ch).
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Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness I Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick & McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Weidman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D. Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R. Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M., Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
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Gottlieb J., Marcy A.I., Coen D.M
"The herpes simplex virus type 1
                                                                                                           MEDLINE=88091053; PubMed=2826807;
McGeoch D.J., Dalrymple M.A., Dolan A., McNab D., Perry L.J.,
Taylor P., Challberg M.D.;
"Structures of herpes simplex virus type 1 genes required for
replication of virus DNA.";
J. Virol. 62:444-453(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Herpes simplex virus (type 1 / st
Viruses; dsDMA viruses, no RNA st
Alphaherpesvirinae; Simplexvirus.
NCBI TaxID=10299;
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Pfam; PF00501; AMP-binding; 1.
PROSITE; PS00455; AMP_BINDING; 1.
Menaquinone biosynthesis; Ligase; Complete proteome.
Menaquinone biosynthesis; Aigase; Complete proteome.
SEQUENCE 452 AA; 51394 MW; 3EFA6456AC6F7CBF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a obstween the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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"Whole-genome random sequencing and a Rd.";
Science 269:496-512(1995).
-i- FUNCTION: O-SUCCINYLBENZOIC ACID (OSB-COA).
                                                                                                                                                                                                                                                                                                                                      McGeoch D.J., Dalrymple M.A., Davison A.J., Dolan A., Frame M.C., McNab D., Perry L.J., Scott J.E., Taylor P., "The complete DNA sequence of the long unique region in the genom herpes simplex virus type 1.",
                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
MEDLINE=88274327; PubMed=2839594;
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                                                                          FUNCTION.
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PATHWAY: Menaquinone biosynthesis.
SIMILARITY: BELONGS TO THE ATP-DEPENDENT
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ilymerase processivity factor (Polymer
(DNA-binding protein UL42).
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Coen D.M., Challberg M.D.;
type 1 UL42 gene product:
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EMBL; M1912; AAA45824.1; -.
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PDB; 1DML; 15-WAR-00.
InterPro; IPR003202; UL42.
Pfam; PF02282; UL42.
Pfam; PF02282; UL42; 2.
DNA-binding; DNA replication; 3)
SEQUENCE 488 AA; 51159 MW;
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CHOD_STRSQ
P12676;
01-OCT-1989
01-OCT-1989
15-SEP-2003
Cholesterol
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T. Bacteriol
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Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
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                                                                                                                                                       Biochemistry 38:4277-4286(1999).
-!- CATALYTIC ACTIVITY: Cholesterol
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                                                                           SUBUNIT: Monomer.
SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE GMC OXIDOREDUCTASES FAMILY.
                                                                                                                  PATHWAY: CHOLESTEROL METABOLISM
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SUMMARIES

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Submitted (ApR-2001) to the
EMBL; BC006785; AAH06785.1;
InterPro; IPR002000; Lamp.
Pfam; PF01299; Lamp; 1.
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Similar to lysosomal membrane glycoprotein 1 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Takeuchi S., Maeda T., Hashimoto N., Imaizumi K., Kaidoh T., Hayakawa Y.;
"Variation of the agr locus in Staphylococcus aureus isolates cows with mastitis.";
Vet. Microbiol. 79:267-274 (2001).
EMBL; AB043554; BAB18547.1; -.
EMBL; AB043554; BAB18547.1; -.
SEQUENCE 46 AA; 5050 NW; 404714CDC4BFA77E CRC64;
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                                                                                                                                                                  PRINTS; PR00336; LYSASSOCTDMP: PROSITE; PS00310; LAMP 1; 1. PROSITE; PS00311; LAMP 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Staphylococcus aureus. Bacteria; Firmicutes;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10090;
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7; Conserv
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la T., Hashimoto N.,
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                                                                                                                      20456 MW;
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Pred. No. 6.5;
0; Mismatches
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Pred. No. 3.9;
1; Mismatches 1
                            Score 32;
Pred. No.
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              PRADOCT PROCESS OF TRANSPORT OF
RA Kawai J. Shinagawa A., Fukunishi Y., Komon M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Komon H., Adachi J., Fukuda S.,
RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Saito T., Ckazki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Ouackenbush J.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Ouackenbush J.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA Mordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
RA Hayashizaki Y.;
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Best Local /
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Submitted (DEC-2001) to the EMBI
EMBL; AY069968; AAL58070.1; -.
InterPro; IPR002000; Lamp.
Pfam; PF01299; Lamp; 1.
PR.NTS; PR00336; LYSASSOCTDMP.
PROSITE; PS00310; LAMP_1; 2.
PROSITE; PS00311; LAMP_2; 1.
SEQUENCE 406 AA; 43879 MW; C
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Q8VH34;
01-MAR-2002
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Q9DC13;
01-JUN-2001
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Mammalia; Eutheria;
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01-OCT-2002
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STRAIN=C57BL/6J; TISSUE=Lung;
MEDLINE=21085660; PubMed=11217851;
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Mammalia; Eutheria;
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01 (TrEMBirel. 17, Last sequence update)
02 (TrEMBirel. 22, Last annotation update)
membrane glycoprotein 1.
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Rodentia;
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66.7%;
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Last annotation updat
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Pred. No. 59;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; I
Sciurognathi; Muridae;
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Best Local
                                                                             Q8DH49 PRELIMINARY; PRT;
Q8DH49;
01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequ
01-MAR-2003 (TrEMBLrel. 23, Last anno
01-MAR-2003 (TrEMBLrel. 23, Last anno
Clycerol-3-phosphate dehydrogenase.
TLL2111.
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MGD; MGI:96745; Lampl.
InterPro; IPR002000; Lamp.
Pfam; PF0129; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP.
PRINTS; PS00310; LAMP_1; 2.
PROSITE; PS00311; LAMP_2; 1.
SEQUENCE 407 AA; 43936 MW; 6
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01-JUN-2002
01-JUN-2002
01-MAR-2003
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InterPro; IPR001261; ARGE DAPE CPG2.
InterPro; IPR001233; Peptidase M20.
Pfam; PF01546; Peptidase M20; I.
PROSITE; PS00758; ARGE DAPE CPG2 1; 1.
Pydvolase; Dipeptidaee; Complete proteome.
Hydrolase; Dipeptidaee; Complete proteome.
SEQUENCE 452 AA; 50314 MW; ED12EB150B8FA51E CRC64;
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STRAIN-ATCC 25586;
MEDLINE-21886394, PubMed=11889109;
MEDLINE-21886394, PubMed=11889109;
MEDLINE-21886394, PubMed=11889109;
Medline-21886394, PubMed=11889109;
Medline-21886394, Medline-21896, Medl
Synechococcus elongatus Bacteria; Cyanobacteria;
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(TYEMBLrel. 21, Last sequence update)
(TYEMBLrel. 23, Last annotation update)
eptidase (EC 3.4.13.3).
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(Thermosynechococcus elongatus); Chroococcales; Synechococcus.
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Last ann
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Pred. No. 59;
2; Mismatches
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RX KEDILINE-98044033; PubMed=9384377;
RX KEDILINE-98044033; PubMed=9384377;
RA KENET F., Ogasawara N., Moszer I., Albertini A.M., Alloni G.,
RA Azevedo V., Bertero M.G., Bessieres P., Bolotin A., Borchert S.,
RA Azevedo V., Bertero M.G., Bessieres P., Bolotin A., Borchert S.,
RA Borriss R., Boursier L., Brans A., Braun M., Brignell S.C., Bron S.,
RA Borriss R., Boursier L., Brans A., Braun M., Brignell S.C., Bron S.,
RA Brouillet S., Bruschi C.V., Caldwell B., Capuano V., Carter N.M.,
RA Choi S.X., Codani J.J., Connerton I.F., Cummings N.J., Daniel R.A.,
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RA Fritz C., Fujita N., Fujita Y., Fure R., Golightly E.J., Grandi G.,
RA Ghims Y., Glaser P., Goffeau A., Golightly E.J., Grandi G.,
RA Gliseppi G., Guy B.J., Haga K., Haiech J., Harwood C.R., Henaut A.,
RA Moone D., Oketter P., Koningstein G., Krogh S., Kumano M.,
RA Moone D., Oketter P., Mizuno M., Moestl D., Nakai S., Noback M.,
RA Moone D., Oketlly M., Ogawa K., Ogiwara A., Oudega B., Park S. H.,
RA Parro V., Pohl T.M., Portetelle D., Porwollik S., Prescott A.M.,
RA Parsecan E., Pujic P., Purnelle B., Rapoport G., Rey M., Reynolds S.,
RA Rieger M., Rivolta C., Rocha E., Roche B., Rose M., Sadaie Y.,
RA Seriguchi J., Sechuska A., Seror S.J., Serror P., Shin B.S., Soldo B.,
RA Seriguchi A., Tarakoshi A., Tanaka T., Terpstra P., Tognoni A.,
RA Viari A., Wambutt R., Wedler E., Wedler H., Weizenegger T.,
Weber Complete Sempers encuence of the Gram-besitye batterium Bacillus
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DNA Res. 9:123-130 (2002)
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Bacteria; Firmicutes;
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"The complete genome sequence subtilis.";
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Yamamoto H., Uchiyama S., Nugrobo F.A., Sekiguc Television of the Bacillus sequencing of a 35.7 kb in the 70 of the Bacillus subtilits genome reveal genes for system, three spore germination proteins, an ir general stress response protein.";
Gene 194:191-199(1997).
Gene 194:191-199(1997).
EMBL; D86417; BAA22318.1; -.
InterPro; IPR000522; FecCD.
Pfam; PF01032; FecCD; 1.
Protein export protein.
TC0330.
Chlamydia muridarum.
Bacteria; Chlamydiae; (
NCBI_TaxID=83560;
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STRAIN=168;
Kunst F., Ogasawara
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[3]
SEQUENCE FROM N.A.
STRAIN=AC327;
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Bacteria; Spirochaetes;
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N SEQUENCE FROM N.A.

PROPERCY FROM N.A.

RC STRAIN=MODD / Nigg;

RC STRAIN=MODD / Nigg;

RX MEDINE=20150255; PubMed=10684935;

RA Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,

RA White O., Hickey E.K., Peterson J., Utterback T., Berry K., Bass S.

RA Linher K., Weidman J., Khouri H., Craven B., Bowman C., Dodson R.,

RA Gwinn M., Nelson W., DeBoy R., Kolonay J., McClarty G., Salzberg S.

RA Eisen J., Fraser C.M.;

"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia

"Genome sequences of Chlamydia trachomatis MoPn and Chlamydia

"nneumoniae AR39.";

"nneumoniae AR39.";
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Query Match
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Matches 5
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Matches 6
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InterPro; IPR001092; HLH_basic.
InterPro; IPR001610; PAC.
InterPro; IPR00014; PAS_domain.
Pfam; PF00010; HLH; 1.
Pfam; PF00785; PAC; 1.
Pfam; PF00789; PAS; 1.
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01-NOV-1998
01-MAR-2003
                                                                                                                                                                                                        SMART; SM00353; HLH;
SMART; SM00086; PAC;
SMART; SM00091; PAS;
                                                                                                                                                                                                                                                                                                                                                                                                                               structure in the aryl hydrocarbon rece
tetrachlorodibenzo-p-dioxin-resistant
MO1. Pharmacol. 54:86-93(1998).
-!- SIMILARITY: BELONGS TO THE BASIC P
TRANSCRIPTION FACTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=Han/Wistar;
MEDLINE=98325247;
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Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           088930
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                                                                                                                                                        PROSITE; PS00038;
PROSITE; PS50888;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "point mutation in intron sequence causes altered carboxyl-terminal structure in the aryl hydrocarbon receptor of the most 2,3,7,8-retrachlorodibenzo-p-dioxin-resistant rat strain.";
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Similarity
5; Conser
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3 (TrEMBLrel. 23,
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oa; Chordata;
ia; Rodentia;
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HLH_2;
PAS; 1.
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ong J.M.Y., Li W.,
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Pred. No. 1.4e-
2; Mismatches
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  Score 31; DB 11
Pred. No. 2e+02;
3; Mismatches
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Sciurognathi; Muridae; Murinae; Rat
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Dodson R.,
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Query Match
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Matches 5; Conserv
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Eades C.J., Gilbert A., Goodman C.D., H
"Identification and analysis of a class
Aspergillus nidulans.";
Glycobiology 0:0-0(1997).
EMBL; AF016850; AAB70514.1; -.
EMBL; AF016850; AAB70514.1; -.
InterPro; IPR000602; Glyco_hydro_38.
InterPro; IPR000601; SBP_dom1.
Pfam; PF01074; Glyco_hydro_38; 1.
PROSITE; PS01037; SBP_BACTERIAL_1; 1.
SEQUENCE 1049 AA; 118684 MW; 7336F2
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q50375; PRELIMINARY;
Q50375; PREMBLrel. 01, C
01-NOV-1996 (TrEMBLrel. 01, L
01-UN-2002 (TrEMBLrel. 21, L
FXUC (Fragment).
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01-JAN-1998
01-MAR-2003
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                                                                                                  Pfam;
                                                                                    NON TER
                                                                                                                                                                                            "Identification of genes involved in the sequestration of imycobacteria: The ferric exochelin biosynthetic and uptake Mol. Microbiol. 14:557-569(1994).
                                                                                                                                                                                                                                                                                                                                                                                        Mycobacterium smegmatis.
Bacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Mycobacteriaceae; Mycobacterium.
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Eukaryota; Fungi; Ascomycota; Pezizomycotina;
Eurotiales; Trichocomaceae; Emericella.
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MSD2.
                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN=mc6;
MEDLINE=95191405; PubMed=7885234;
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                                                                                                                                                                                                                                                              Fiss E.H.
                                                                                                                                                     nterPro;
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                                                                                                                                                  Microbiol. 14:557-569(1994).
,; U10425; AAC43258.1; -.
;rPro; IPR000522; FecCD.
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                                                                                                                              PF01032; FecCD; 1.
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    Conservative
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87.5%;
                  76.9%;
                                                                                       24159 MW;
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; Score 30; DB; pred. No. 97; 3; Mismatches
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class 2 alpha-mannosidase
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P SEQUENCE FROM N.A.

2 STRAIN=13 / Type A;

X PubMed=11792842;

X PubMed=11792842;

X PubMed=11792841;

A Shima T., Ostani K., Hirakawa H., Ohshima K., Yamashita A.,

A Shiba T., Ogaswara N., Hattori M., Kuhara S., Hayashi H.;

A Shiba T., Ogaswara N., Hattori M., Kuhara S., Hayashi H.;

T (Complete genome sequence of Clostridium perfringens, an anae

"Complete genome sequence of Clostridium perfringens, an anae

"T total "Alla "State" in the Complete genome sequence of Clostridium perfringens, an anae

"T total "Alla "State" in the Complete genome sequence of Clostridium perfringens, an anae

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Science 282:2012-2018(1998).
EMBL, Z78420; CAB01709.1; -.
Wormbep; F45H11.1; CE1655.
InterPro, IPR007087; Znf_C2H2.
Pfam; PP00096; zf-C2H2; I.
SMART; SW00355; ZnF_C2H2; I.
PROSITE; PS00128; ZINC_FINGER_C2H2_1; 1.
PROSITE; PS0157; ZINC_FINGER_C2H2_2; 1.
Metal-binding; Zinc; ZInc-finger.
SEQUENCE 298 AA; 31721 MW; F83ESFE55
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Q93727;
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Eukaryota; Metazoa; Nematoda; Chromadorea;
Rhabditidae; Peloderinae; Caenorhabditis.
NCBI_TaxID=6239;
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Bacteria; Firmicutes; Clostridia;
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NCBI_TaxID=1502;
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Pred. No. 1.2e
1; Mismatches
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DR Pfam; PF01032; FecCD; 1.

DR ProDom; PD001557; FecCD; 1.

DR PROSITE; PS00215; MITOCH_CARRIER; 1.

KW Complete proteome.

SQ SEQUENCE 337 AA; 36437 MW; 565F8193B7BCB913 CRC64;

Query Match

Best Local Similarity 55.6%; Pred. No. 1.4e+02;

Matches 5; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Matches 5; Conservative 3; Mismatches 0; Gaps 0;

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Search completed: January 29, 2004, 14:56:50

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US-09-339-511-1

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US-09-189-930-141

US-09-189-930-241

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US-09-18-991A-305-3

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Sequence 4, Appli
Sequence 141, App
Sequence 2, Appli
Sequence 341, App
Sequence 341, App
Sequence 372, Appli
Sequence 27722, A
Sequence 27722, A
Sequence 10, Appli
Sequence 32358, A
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US-09-339-511-1
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                                                                        Sequence 1, Application Patent No. 6337385 GENERAL INFORMATION:
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Best Local S
Matches 9
   APPLICANT:
APPLICANT:
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ORGANISM: Artificial Sequence
FEATURE:
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Result

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ALIGNMENTS

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APPLICANT: Ji, Guangyong

IIILE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL

ITILE OF INVENTION: INTERPERENCE

ILLE REFERENCE: 600-1-231N

CURRENT APPLICATION NUMBER: US09/339,511

CURRENT FILING DATE: 1999-06-24

PRIOR APPLICATION NUMBER: 60/090,402

PRIOR PILING DATE: 1998-06-24

NUMBER OF SEO ID NOS: 8

SOFTWARE: Patentin Ver. 2.0

LENGTH: 9

Type-1---
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Muir, Tom
Mayville, Patricia
No. 6337385ick, Richard E
Beavis, Ronald
Ji, Guangyong
                                                                                                                                                                                                                                                         94.9%; Score 37; DB larity 100.0%; Pred. No. 2. Conservative 0; Mismatches
                                                                                                               US/09339511
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Best Local S
Matches 7
                                                                          GENERAL INFORMATION:
APPLICANT: NEW York University Medical Center
APPLICANT: NEW York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN
FILE REFERENCE: 63753/7
CURRENT FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
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SEQ ID NO 1
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                                               SOFTWARE: PatentIn
SEQ ID NO 6
                                                                                                                                                                                        Sequence 6, Application US/08861476C
Patent No. 6447786
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CURRENT APPLICATION NUMBER: US/08/861,476C
CURRENT FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
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CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: New York University Medical Center
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                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Staphylococcus aureus
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OTHER INFORMATION: Xaa represents any amino
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OTHER INFORMATION:
NAME/KEY: VARIANT
ORGANISM: Staphylococcus aureus
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7; Conservative
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77.8%;
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Pred. No. 2.5e
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Best Local
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Patent No.
                        SEQ ID NO 2
                                              FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                           -09-339-511-2
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CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 199-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
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OTHER INFORMATION: I
NAME/KEY: VARIANT
LOCATION: (5)
                                      SOFTWARE:
                                                                                                                               TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS
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                                                                                                                                                              APPLICANT:
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TITLE OF INVENTION: NOVEL STAPHYI
TITLE OF INVENTION: INTERFERENCE
                                                                                                                                                                                                       APPLICANT:
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ORGANISM: Artificial Sequence
FEATURE:
TYPE: PRT
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6337385
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No. 6337385ick,
Beavis, Ronald
                                      PatentIn Ver. 2.0
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Mayville, Patri
No. 6337385ick,
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85ick, Richard
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77.8%;
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Pred. No.
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Pred. No. 1.
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OTHER INFORMATION: Description of Artificial Sequence OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at US-09-339-511-7
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                                                                                       APPLICANT:
                                                                                                                                                               Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Beavis, Ronal APPLICANT: Ji, Guangyong TITLE OF INVENTION: NOVE TITLE OF INVENTION: INTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 60/0
                                       APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS
TITLE OF INVENTION: INTERFERENCE
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OTHER INFORMATION:
NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Xaa represents any amino
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                                                                                                                                                                          4, Application US/09339511
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 77.
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                                                                                                                                                                                                                                                                            GVNAXSALF 9
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                                                                                                                                                                                                                                                   GVNAXSSAF 9
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                                                                                     No. 6337385ick, Richard P. Beavis, Ronald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mayville, Patric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Beavis, Ronald
DE: 600-1-231N
ICATION NUMBER: US/09/339,511
NG DATE: 1999-06-24
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                                                                                                                    Patricia
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77.8%;
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77.8%;
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Pred. No.
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Pred. No. 2.5e+05;
1; Mismatches 1
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                                                           PEPTIDES FOR BACTERIAL
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SEQ ID NO 141
LENGTH: 322
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Best Local Similarity
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PRIOR FILING DATE: 1998-0
NUMBER OF SEQ ID NOS: 8
                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Watson, James D.
APPLICANT: Strachan, Lorna
APPLICANT: Sleeman, Matthew
APPLICANT: Onrust, Rene
APPLICANT: Murison, James Greg
APPLICANT: Murison, James Greg
APPLICANT: MURISON, James Greg
TITLE OF INVENTION: Compositions Isolated From Skin Cells
TITLE OF INVENTION: and Methods For Their Use
                                                                                                                                                 APPLICANT: Watson, James
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/188,930A
                              APPLICANT: Murison, James G.
APPLICANT: Kumble, Krishanand D.
RITLE OF INVENTION: Compositions Isolated from Skin Cells
RITLE OF INVENTION: and Methods for Their Use
                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: Description OTHER INFORMATION: peptide NAME/KEY: VARIANT
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                                                                                                                                                                     INFORMATION:
APPLICATION NUMBER: US/09/312,283C
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                                                                                               Strachan, Lorna
Sleeman, Matthew
Onrust, Rene
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                   11000.1011c2
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87.5%;
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66.7%;
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Pred. No. 1
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Pred. No. 2
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APPLICANT: Watson, James D.
APPLICANT: Strachan, Lorna
APPLICANT: Strachan, Lorna
APPLICANT: Sleeman, Matthew
APPLICANT: Onrust, Rene
APPLICANT: Murison, James Greg
TITLE OF INVENTION: Compositions Isolated From Skin Cells
TITLE OF INVENTION: and Methods For Their Use
TILE REFERENCE: 11000.1011c1
CURRENT APPLICATION NUMBER: US/09/188,930A
CURRENT FILING DATE: 1998-11-09
NUMBER OF SEQ ID NOS: 348
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 341
LENGTH: 431
TYPE: PRT
OPENNISM. MONES
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APPLICANT: Kosmatka, Anna L.
APPLICANT: Traini, Christopher M.
APPLICANT: Warren, Richard L.
TITLE OF INVENTION: 9cp
FILE REFERENCE: GM10166
CURRENT APPLICATION NUMBER: US/09/149,624
CURRENT FILING DATE: 1998-09-08
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 2
LENGTH: 341
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US-09-188-930-341
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; TYPE: PRT
; ORGANISM: Staphylococcus aureus
US-09-149-624-2
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US-09-149-624-2
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; ORGANISM: Mouse
US-09-312-283C-141
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      Query Match
Best Local Similarity
Watches 6; Conserve
                                                                             ; ORGANISM: Mouse US-09-188-930-341
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Best Local Similarity
Matches 6; Conserv
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Best Local Similarity 66.7%;
Matches 6; Conservative
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SOFTWARE: FastSEQ for
SEQ ID NO 141
LENGTH: 322
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Windows Version 4.0
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                                  71.8%;
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Pred. No. 1.4e+02;
0; Mismatches 2
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Pred. No. 1
                                Score 28; [
Pred. No. 1.
                   Mismatches
                                  DB 3;
1.8e+02;
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                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO:9:
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Best Local
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TYPE: PRT
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; Sequence 25722, Application US/09252991A

Patent No. 6551795
; GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
: FILE REPERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
; CURRENT FILING DATE: 1999-02-18
                                                                                                                                                                          RESULT 15
US-09-252-991A-25722
                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 66..
Conservative
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CURRENT FILING DATE: 1999-05-14
NUMBER OF SEQ ID NOS: 425
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 341
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Watson,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 9
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 21-FEB-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ent No. 5223391
APPLICANT: COEN, DONALD M.;DIGARD, PAUL E.
TITLE OF INVENTION: INHIBITIORS OF HERPES SIMPLEX VIRUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
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Sleeman, Matthew
Onrust, Rene
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                                                                                                                                                    Application US/09252991A
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66.7%;
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                                                                                                                                                                                                                                                                                                                                                   Score 28; DB 6; Length 488; 
Pred. No. 2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 28; DB 4;
Pred. No. 1.8e+02;
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PRIOR APPLICATION NUMBER: US 60/074,788

PRIOR PILING DATE: 1998-02-18

PRIOR APPLICATION NUMBER: US 60/094,190

PRIOR
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Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                      Result
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Maximum
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB seq length: 0
DB seq length: 2000000000
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Gapop 10.0 , Gapext
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Maximum Match 100%
Listing first 45 summaries
 Published_Applications_AA: *
                                                                                                                                                                                                                                                                                                                                                                                                                                              / Cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
/ Cgn2_6/ptodata/1/pubpaa/IS07_NEW_PUB.pep:*
/ Cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
/ Cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
/ Cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
/ Cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
/ Cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
/ Cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
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/ Cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
/ Cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
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/ Cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*
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13 US-10-032-950-1
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15 US-10-201-444-6
13 US-10-032-950-5
13 US-10-032-950-5
13 US-10-032-950-7
13 US-10-0382-227-184
12 US-09-882-227-184
13 US-10-032-950-7
15 US-10-166-751-912
15 US-10-166-751-912
15 US-10-369-493-12194
19 US-09-841-132-574
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           Sequence 6, Appli
Sequence 1, Appli
Sequence 3, Appli
Sequence 5, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 19084, A
Sequence 1184, Appli
Sequence 112, Appli
Sequence 12, Appli
Sequence 12, Appli
Sequence 12, Appli
Sequence 12194, Appli
Sequence 12194, Appli
                                                                                                                                                                                                                                                                                        Description
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-10-024	832-129-5	-09-832-129-	9-799-777-7	-10-369-49	09-815-242-1198	-10-369-493-264	-10-292-79	-10-017-161-213	-10-369-49	-10-369-493-114	-10-369-493-147	-10-369-493-1426	-10-004-378A-19	09-864-761-3480	-10-369-493-119	-10-260-93	09-823-356-	-10-094-749-2	-10-260-877-96	L	-09-866-050A-	09-815-242-121	20-044	-09-815-242-572	264-237-208	-09-866-050A-1	-10-083-357-128	-09-894-018-12	- CO - FOO - CO
85	54	41	4.	e 376	198	26.4	equence 177	Sequence 2132, Ap	equence 981	equence 114	equence 14770	equence 1426	Sequence 190, App	quence	equenc	Sequence 39, Appl	quence	equenc	equenc	Sequence 129, App	equenc	equence	quence 2,	equence 57:	equen	equence 1	quence 1	equence 1:	duction .

AL I GNMENTS

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RESULT 1

US-10-032-950-6

Sequence 6, Application US/10032950

Publication No. US2020077453A1

General INFORMATION:
APPLICANT: Mair, Tom
APPLICANT: Mayville, Patricia
APPLICANT: Mayville, Patricia
APPLICANT: Movel 1, Guangyong
APPLICANT: J. Geavis, Ronald
APPLICANT: J. Geavis, Ronald
APPLICANT: J. Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS
PEPTIDES TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS
PETIDES FOR BACTERIAL
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS
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Best Local S
Matches 8
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                                                                                                                                                                                                       SOFTWARE: PatentIn version 3.0 SEQ ID NO 3 LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3, Application US/10201444
Publication No. US20030078378A1
                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/10/201,444
CURRENT FILING DATE: 2002-07-23
PRIOR APPLICATION NUMBER: US/08/861,476
PRIOR FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Muir, Tom
APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453Alick, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR PILING DATE: 1998-06-24
NUMBER OF SEO ID NOS: 8
NUMBER OF SEO ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                         APPLICANT: New York University Medical Center TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. FILE REFERENCE: 63753/7
                                                                                                                                                                   TYPE: PRT ORGANISM: Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION:
OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence FEATURE:
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                                                                        Similarity 7; Conserv
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                                      GVNAXSALF 9
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                                                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                87.2%;
                                                                                          84.6%;
77.8%;
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                                                                                          Score 33; DB 15;
Pred. No. 7e+05;
                                                                            Mismatches
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RESULT 4 US-10-201-444-6

US-10-032-950-2

Sequence 2, Application US/10032950 Publication No. US20020077453A1 GENERAL INFORMATION:
APPLICANT: Muir, Tom

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US-10-032-950-5
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; TYPE: PRT
; ORGANIEM: Staphylococcus aureus
US-10-201-444-6
RESULT 6
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                                                                                                                                                                                                            US-10-032-950-5
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Best Local S
Matches 7
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TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS
FILE REFERENCE: 63753/7
CURRENT APPLICATION NUMBER: US/10/201,444
CURRENT FILING DATE: 2002-07-23
PRIOR APPLICATION NUMBER: US/08/861,476
PRIOR FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.0
SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1996-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 6, Application US/10201444
Publication No. US20030078378A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 5, Application US/10032950 Publication No. US20020077453A1
                                                                                                                                                   Query Match
Best Local :
                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Muir, Tom,
APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453A11ck, Richard P.
APPLICANT: No. US20020077453A11ck, Richard P.
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
FILE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-31N
                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 9
TYPE: PRT
                                                                                                                                                                                                                            OTHER INFORMATION: Xaa represents any amino acid at this position.
                                                                                                                                                                                                                                               NAME/KEY: VARIANT LOCATION: (5)
                                                                                                                                                                                                                                                                               FEATURE:
OTHER INFORMATION: Description
OTHER INFORMATION: peptide
                                                                                                                                                                                                                                                                                                                                   ORGANISM: Artificial Sequence
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                                                                                                                              Similarity 77.4
7; Conservative
                                                       GVNAXASLF 9
                                                                                       GVNAXSALF 9
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                                                                                                                              79.5%; Score 31; DB 77.8%; Pred. No. 7e+0 tive 2; Mismatches
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                                                                                                                                                                                                                                                                                                        of Artificial Sequence: Synthetic
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                                                                                                                                                   7e+05;
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SOFTWARE: FatentIn version 3.
SEQ ID NO 33
LENGTH: 388
TYPE: PRT
ORGANISM: Streptococcus suis
FEATURE:
NAME/KEY: misc feature
CTHER INFORMATION: CPS1H
US-09-767-041-33
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RESULT 8
US-10-369-493-19084
; Sequence 19084, Application US/10369493
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Best Local Similarity
"``hes 6; Conserve
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CURRENT APPLICATION NUMBER: US/09/767,041
CURRENT FILING DATE: 2001-01-2
PRIOR APPLICATION NUMBER: PCT/NL99/00460
PRIOR FILING DATE: 1999-07-19
PRIOR PPLICATION NUMBER: EP98202465.5
PRIOR FILING DATE: 1998-07-22
PRIOR APPLICATION NUMBER: EP98202467.1
PRIOR APPLICATION NUMBER: EP98202467.1
PRIOR FILING DATE: 1998-07-22
NUMBER OF SEQ ID NOS: 53
SOFTWARE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 2
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Requence 33, Application US/09767041 attent No. US20020055168A1 SENERAL INFORMATION:
APPLICANT: Smith, Hilda TITLE OF INVENTION: STREPTOCOCCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL TITLE OF INVENTION: INTERFERENCE FILE REFERENCE: 600-1-231N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: VARIANT LOCATION: (5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: Xaa represents any amino acid at this position
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
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                                                                                                                                       1 GVNAXSALF 9
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                                                                                               GVNGETALF
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No. US200200777677
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCT/NL99/00460
1999-07-19
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Pred. No. 7e+05;
1; Mismatches 1; Indels
                                                                                                                                                                                               Score 30;
Pred. No.
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RESULT 10
US-10-032-950-7
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Best Local S
Matches 5
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PRIOR FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 1984
LENGTH: 508
                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 638
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 184
LENGTH: 549
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Best Local :
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Sequence 7, Application US/10032950 Publication No. US20020077453A1
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Publication No. US20030158396A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES FILE REFERENCE: 38-10(52052)B CURRENT APPLICATION NUMBER: US/10/369,493 CURRENT FILING DATE: 2003-02-28
                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Ocomen, Raymond P.
TITLE OF INVENTION: Identification of Polynuclectides
TITLE OF INVENTION: Encoding No. US20030158396A1el Helicobacter Polypeptides in
TITLE OF INVENTION: Genome
FILE REFERENCE: 06132/047002
CURRENT APPLICATION NUMBER: US/09/882,227
CURRENT FAPLING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: US/08/902,615
PRIOR APPLICATION NUMBER: US 08/902,615
PRIOR FILING DATE: 1997-07-29
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APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Goldman, Barry S.
APPLICANT: Chen, Xianfeng
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                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Helicobacter pylori
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Local Similarity 75.0%;
see 6; Conservative
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les 5; Conser
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Tomb, Jean-Francois
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Pred. No.
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Pred. No. 1.4e+02;
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Mayville, Patricia No. US20020077453Alick, Richard

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Best Local Similarity
Thes 6; Conserva
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; OTHER INFORMATION: Xaa represents any amino acid at this position US-10-032-950-7
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Best Local Similarity
Matches 7; Conserv
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PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Microsoft Office 97
SEQ ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 12, Application US/10004502 Publication No. US20030088882A1 GENERAL INFORMATION:
                                                                                                                   Sequence 9222, publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: BB1470 US NA
CURRENT APPLICATION NUMBER: US/10/004,502
CURRENT FILING DATE: 2001-10-30
PRIOR APPLICATION NUMBER: 60/244,272
PRIOR PILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Harvell, Leslie T. APPLICANT: Ragghianti, James J TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
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                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 337
                                                                                    ICANT: OMURA, SATOSHI
                                                                                                     INFORMATION:
                                                                                                                                                                                                                          90 GVNAEGCLF 98
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              IKEDA, HARUO
ISHIKAWA, JUN
HORIKAWA, HIROSHI
SHIBA, TADAYOSHI
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SAKAKI, YOSHIYUKI
                                                                                                                   o. US20030119018A1
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                                                                                                                                                                                                                                                                                                             74.4%;
66.7%;
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Pred. No. 1.4e+02;
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Pred. No. 7e+05;
1; Mismatches 1
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SOFTWARE: FastSEQ for Windows Version 3.0/4.0
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APPLICANT: HATTORI, MASAHIRA
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-262
CURRENT APPLICATION NUMBER: US/10/156,761
CURRENT FILING DATE: 2002-05-29
PRIOR APPLICATION NUMBER: JP 2001-204089
PRIOR FILLING DATE: 2001-05-30
PRIOR APPLICATION NUMBER: JP 2001-272697
PRIOR FILLING DATE: 2001-08-02
NUMBER OF SEQ ID NOS: 15109
SEQ ID NO 9222
ENOTH: 391
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Best Local Similarity
Watches 6; Conserve
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APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
APPLICANT: Chen, Xianfeng
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10 ($2052) B
CURRENT APPLICATION NUMBER: US/10/369,493
CURRENT FILING DATE: 2003-02-28
PRIOR FILING DATE: 2003-02-29
PRIOR FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 12194
                                                                                                                                                                               Sequence 574, Application US/09841132
Patent No. US20020061848A1
GENERAL INFORMATION:
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                                                         APPLICANT: Bhatia, Ajay
APPLICANT: Skeiky, Yasir A.W.
APPLICANT: Probst, Peter
TITLE OF INVENTION: COMPOSITIONS AND METHODS
TITLE OF INVENTION: DIAGNOSIS OF CHLAMYDIAL
FILE REFERENCE: 210121.469C8
CURRENT APPLICATION NUMBER: US/09/841,132
CURRENT FILING DATE: 2001-04-23
NUMBER OF SEQ ID NOS: 599
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TYPE: PRT
ORGANISM: Mesorhizobium loti
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Pred. No.
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Pred. No. 2e+02;
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                                                                                 FOR TREATMENT AND INFECTION
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APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453A1ick, Richard P.
APPLICANT: No. US20020077453A1ick, Richard P.
APPLICANT: No. US20020077453A1ick, Richard P.
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICANTION NUMBER: 60/090,402
                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Artificial Sequence
PEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: peptide
NAME/KEY: VARIANT
LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position.
US-10-032-950-4
Search completed: January 29, 2004, 15:01:46 Job time: 25.5441 secs
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                                                                                                                                                                                                                                                                           Query Match 71.8%; Score 28; DB 13; Length 9; Best Local Similarity 87.5%; Pred. No. 7e+05; Matches 7; Conservative 1; Mismatches 0; Indels
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2 VNAXSSLF 9
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Title:
Perfect score:
Sequence:
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Maximum
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S. aureus peptide
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AgrD-autoinducing
Staphylococcus aur
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AgrD2 linear thioe
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ID AAY67857
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ALIGNMENTS

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Staphylococcus aureus infection; cyclic peptide; AgrD; agr response; virulence factor; treatment. 24-JUN-1999; 29-DEC-1999. Misc-difference Key Modified-site Staphylococcus aureus. 24-JUN-1998; WO9967286-A2 (UYRQ) UNIV NEW YORK STATE 98US-0103438 99WO-US14562 5 /label= Unknown /note= "N-terminal residue forms bond with C-terminal residue to form a cyclic peptide" Location/Qualifiers

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RESULT 2
ABP53546
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Matches 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence represents a cyclic peptide derived from the Staphylococcus aureus AgrD peptide. The invention relates to AgrD derived peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
   Claim
                                                                                                                                                                                                                                                                                     Cyclic peptide; agr response inh
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                                                                                                                                                                                                                                          Key
Misc-difference
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                              New cyclic
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                                                                                                                                             24-JUN-1998;
24-JUN-1999;
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                                                                                                                                                                                                                                                                     Synthetic
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                                                                    Muir TW,
                                                                                                        (MUIR/)
(MAYV/)
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                      infections
                                                                                       (JIGG/)
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                                                                                     ) MUIR T W.
) MAYVILLE P.
) NOVICK R P.
) BEAVIS R.
) JI G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
9; Conserv
   Page
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                            peptides,
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                                                                                                                                                                                                                                                                                        inhibitor
    10;
                                                                                                                                                                                                                                                                                                                    SEQ ID NO:7.
                                                                                                                                             98US-090402P
99US-0339511
                                                                                                                                                                                                                                                                                                Staphylococcus aureus;
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Matches
The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of staphylococcus aureus. It is an AgrD-autoinducing peptide, where AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NH2-X(n)-2-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABP53540 to ABP53547 represent cyclic peptides (I) from the present invention. The present invention also describes a method for tree staphylococcus aureus infection comprising the administration of composition comprising (I). (I) has antibacterial activity, and of used as an agr gene response inhibitor. The peptides are useful freating S. aureus infections.
                                                                                                                                                                                                                Claim 7;
                                                                                                                                                                                                                                                                               Novel synthetic, interference and
                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-170774/22.
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NEW YORK STATE
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peptidomimetic or non-amide isostere, Z is a synthetic or a biosynthetic amino acid, n is 0-10 and y is 1-10. The cyclic bond is especially a lactam or lactone bond. The thiololactone structure within native AgrD peptides is required for activation of the agr response. Elimination of the thiol ester component of the cyclic ring structure can destroy agr response activating activity while preserving and enhancing inhibitory activity. A claimed method of preparing a cyclic peptide involves: assembling a linear peptide chain on to a solid phase resin support; deprotected peptide with neutral buffer for a time sufficient to deprotected peptide with neutral buffer for a time sufficient to and recovering the cyclic peptide. The peptide is useful for bacterial interference, especially for the treatment of S. aureus
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example of the preparation of novel synthetic cyclic peptides of the invention (see AAM50899-906). The peptide corresponds to the staphylococcus aureus AgrDII sequence with a CyS to Ser mutation (lactone). It was synthesised on a Wang-resin using an Fmc (lactone). It was synthesised on a Wang-resin using an Fmc C (was cleaved from the support and the Ser-5 residue deprotected by treatment with a trifluoroacetic acid:anisole:water mixture (90:5:5) for 4 hr. The partially protected peptide-alpha (190:5:5) for 4 hr. The partially protected peptide-alpha (190:5:5) for 4 hr. The partially protected peptide-alpha (190:5:5) for 4 hr. The remaining protecting groups were then complete after 2 hr. The remaining protecting groups were then removed by treatment with HF and the peptide surfice by HPLC. The cyclic peptide is capable of inhibiting the agr response of Staphylococcus aureus. The thiololactone structure within native AgrD peptides is required for activation of this response. Replacement of the thiol ester component of the cyclic ring structure with a lactone (as in the present case) or a lactam can centrating inhibitory activity. The cyclic peptides are useful for infactivity in the treatment of S. aureus
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infection; therapy; cyclic.
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Query Match Best Local Similarity

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Score 33; Pred. No.

DB 23; 9.3e+05;

Length 9;

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GVNAXSSAF

Best Loc Matches

Local

Similarity 7; Conserv

Conservative

84.6%;

Score 33; DB 23; : Pred. No. 9.3e+05; 0; Mismatches 2;

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                                                                         The present sequence is that of a novel synthetic AgrD2 linear thioester peptide. The peptide is derived from the cyclic AgrD2 of peptide of Staphylococcus aureus group II. AgrD2 is a secreted agr-encoded peptide, where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. The biological activity of the synthesis of containing a beta-lactamase reporter gene flued to the agr containing a beta-lactamase reporter gene flued to the agr containing a beta-lactamase reporter gene flued to the agr cresponse to be monitored spectrophotometrically. Unlike an AgrD2 thiololactone cyclic peptide (see AAM51001), the present peptide was unable to either activate or inhibit the agr response, even when added to cultured cells at um concentrations. The invention provides claimed cyclic peptides (see AAM58099-906 and AAM50999) and methods for preparing them. The cyclic peptides are useful for affection.
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AAM51004
ID AAM51004 standard; Peptide; 9 AA.
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Best Local Similarity

Matches 7; Conserv
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RESULT 10

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/note= "note linked
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                                                                                                       84.6%;
77.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide"
                                                                                                       Score 33; DB 23;
Pred. No. 9.3e+05;
                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Beavis R,
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                                                                                                                               Length 9;
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RESULT 11
AAY67851
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AC AAY
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DT 25-1
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                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 7; Conserv
     Staphylococcus aureus infection; cyclic peptide; AgrD;
                                                 S. aureus peptide #1 used for bacterial interference.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    treating pathogen-associated disease states. The compounds and antibiotic compositions can be used to inhibit bacterial cell growth and/or biofilm formation on a medical device, particularly for promoting growth of skin graft replacements used in the treatment of burns and ulcers. They may also be used to aid wound repair, and to inhibit bacterial cell growth and biofilm formation in or on products or devices used for personal hygiene. The present sequence represents a inhibitor of peptide-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to the use of autoinducer-2 (AI-2) agonists or antagonists for regulating activity of autoinducer-2 receptor, regulations that the formal pathogenesis. Synergistic antiblotic compositions comprising inhibitors of the quorum-sensing pathway of a microorganism comprising inhibitors of the quorum-sensing pathway of a microorganism are also provided. Methods using such AI-2 analogues are useful for the provided of the provid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 33; 134pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Use of autoinducer-2 agonists or antagonists autoinducer-2 receptor, regulating bacterial also antibiotic compositions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10-MAY-2000;
07-DEC-2000;
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                                                                                                    25-APR-2000
                                                                                                                                                   AAY67851;
                                                                                                                                                                                                  AAY67851 standard; peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-075235/10.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (QUOR-)
(UYTE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-NOV-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide-mediated
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  quorum sensing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-MAY-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QUOREX PHARM INC. UNIV TECHNOLOGIES
                                                                                                                                                                                                                                                                                                                                                                     GVNAXSSAF
                                                                                                                                                                                                                                                                                                                         GVNASSSLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           r-2; AI-2; antibiotic; antibacterial; dermatological;
pheromone; agr system; accessory gene regulator; cyclic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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2000US-254398P.
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                                                                                                    entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                   Score 33; DB 23;
Pred. No. 9.3e+05;
0; Mismatches 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for regulating growth and path
                                                                                                                                                                                                                                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 9;
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     agr response;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ptor, regulating compositions
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RESULT 12
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Best Local S
Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Staphylococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New cyclic peptides for treating infections with Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Muir TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-DEC-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   virulence factor; treatment
                    29-DEC-1999.
                                          WO9967286-A2
                                                                          Key
Misc-difference
                                                                                                         Staphylococcus
                                                                                                                               virulence
                                                                                                                                         Staphylococcus aureus infection; AgrD; agr response; treatment;
                                                                                                                                                             Staphylococcus aureus AgrDII derived peptide sequence
                                                                                                                                                                                     25-APR-2000
                                                                                                                                                                                                          AAY67861;
                                                                                                                                                                                                                               AAY67861 standard; peptide; 9
                                                                                                                                                                                                                                                                                                                                                                           Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UYRQ ) UNIV ROCKEFELLER.
(UYNY ) UNIV NEW YORK STATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-JUN-1998;
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                                                                                                                                                                                                                                                                                                                                                                           9 AA;
                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                     (first entry)
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                                                                                                         aureus
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                                                             /label= Unknown
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                                                                                    ocation/Qualifiers
                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                        82.1%;
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                                                                                                                                                                                                                                                                                                                                          Score 32;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                      DB 21;
                                                                                                                                                                                                                                                                                                                                3.3e+05;
nes 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Beavis R;
                                                                                                                                                                                                                                                                                                                                                    Length 9;
                                                                                                                                                                                                                                                                                                                                 Indels
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24-JUN-1999;

99WO-US14562

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RESULT 13
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AC ABP53
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence represents the Staphylococcus aureus AgrDII derived peptide. The invention relates to AgrD derived cyclic peptides, a composition containing a peptide and a carrier, and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2000-147202/13
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                                          Muir
                                                                                                                                                                                                                                                                     27-DEC-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cyclic peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABP53540;
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WPI; 2002-681366/73
                                                                                                                          (MUIR/)
(MAYV/)
(NOVI/)
                                                                                                                                                                                                         24-JUN-1998;
24-JUN-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                      Misc-difference
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                                          TW,
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                                                                               ) MUIR T W.
) MAYVILLE P.
) NOVICK R P.
) BEAVIS R.
) JI G.
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8; Conservative
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                                          Mayville P,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98US-0103438
                                                                                                                                                                                                            98US-090402P.
99US-0339511.
                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Staphylococcus aureus; infection;
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                                          Novick
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 32; DB.
Pred. No. 9.3e
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9.3e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Staphylococcus antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New cyclic peptides, useful for treating infections -
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subject
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                                                                                                                                    Novel synthetic, interference and
                                                                                                                                                                                                                                                                                                                                                                        24-JUN-1999;
                                                                          Claim 7;
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infection; therapy; cyclic.
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The present sequence is that of a novel synthetic cyclic pe of the invention that is capable of inhibiting the agr resp Staphylococcus aureus. It is an AgrD-autoinducing peptide,

lic peptide r response of ptide, where

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RESULT 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Staphylococcus antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NH2-X(n)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester bond, where X is an amino acid, an amino acid analogue, a peptidomimetic or non-amide isostere, Z is a synthetic or a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-MAY-2002
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The present sequence is that of a protected peptide used in an CC the Invention (see AAM50839-906). The peptide corresponds to the CC thaphylococcus aureus AgtDII sequence with a Cys5 to diaminopropionic CC acid (Dpr) mutation (lactam). It was synthesised on a Wang-resin CC using an Fmoc N-alpha protection strategy. Pollowing chain assembly, CC the peptide was cleaved from the support and the Dpr-5 residue CC deprotected by treatment with a trifluoroacetic acid:anisole:water CC mixture (90:5:5) for 4 hr. The partially protected with PyBOP. CC Cyclization was complete after 2 hr. The remaining protecting groups CC were removed by treatment with HF and treated with PyBOP. CC were removed by treatment with HF and the peptide purified by HPLC. CC The cyclic peptide is capable of inhibiting the agr response of Staphylococcus aureus. The thiololactone structure within native CC AgrD peptides is required for activation of this response. CC Replacement of the thiol ester component of the cyclic ring structure with a lactam (as in the present case) or a lactone can CC enhancing inhibitory activity. The cyclic peptides are useful for infaction interference, especially for the treatment of S. aureus
Query Match
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Matches
                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Column 14; 18pp; English
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nilarity 88.9%;
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Listing first 45 summaries
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Copyright (c) 1993 - 2004 Compugen Ltd.
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C.Species: Staphylococcus aureus
C.Species: Staphylococcus aureus
C.Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 22-Oct-2001
C.Accession: C89995
R.;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.;
ma, A.; Mizutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu,
C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
Lancet 357, 1225-1240, 2001
A.;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus.
A.;Reference number: A89758; MUID:21311952; PMID:11418146
A.;Accession: C89995
                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-47 <KUR>
                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: GB:BA000018; PID:g13701831; PIDN:BAB43124.1; GSPDB:GN00149
A;Experimental source: strain N315
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Ö	28		260	N	A91225	cytoplasmic Dnase
Ė	28		260	N	AF0915	probable deoxyribo
Ñ	28		264	N	G86071	hypothetical prote
Ū	28		326	N	683	oxidoreductase yrb
4	28		332	N	T04754	hypothetical prot
Ü	28		346	N	œ	probable iron-side
σ̈́	28		364	N	S43574	C05B5.3 protein (
7	28		398	N	F85056	hypothetical prot
æ	28		401	N	C88571	protein C05B5.3
φ	28		453	N	S18597	tubulin beta chai
0	28	71.8	486	N	G96713	bi
۲	28		493	ы	851574	
N	28		508	N	A32225	nerve growth fact
w	28		512	N	H70662	probable plcA pro
4	28		523	N	G86349	hypothetical prot
ັທ	28		540	N	S35071	auxin-resistance

ALIGNMENTS

었.쪼

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RESULT 2
B95192
hypothetical protein SP1652 [imported] - Streptococcus pneumoniae (strain TIGR4)
c;Species: Streptococcus pneumoniae
C;Species: Streptococcus pneumoniae
C;Accession: B95192
R;Tettelin, H; Nelson, K.E.; Paulsen, I.T.; Eisen, J.A.; Read, T.D.; Peterson, S.; H
con, J.D.; Umayam, L.A.; White, O.; Salzberg, S.L.; Lewis, M.R.; Radune, D.; Holtzapplonson, T.; Hickey, E.K.; Holt, I.E.
science 293, 498-506, 2001
A;Authors: Loftus, B.J.; Yang, F.; Smith, H.O.; Venter, J.C.; Dougherty, B.A.; Morris, A;Authors: Complete Genome Sequence of a virilent isolate of Streptococcus pneumoniae.
A;Reference number: A95000; MUID:21357209; PMID:11463916
A;Molecule type: DNA
A;Residues: 1-924 <KUR>
A;Residues: 1-924 <KUR>
A;Cross-references: GB:AE005672; PIDN:AAK75731.1; PID:g14973142; GSPDB:GN00164;
A;Experimental source: strain TIGR4
C;Genetics:
A;Gene: SP1652
                                                                                                                                                     A; Status: preliminary
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7; Conser
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Pred. No. 1.8;
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C; Date: 20 CP-
C; Date: 10 CP-
C; Accession: A87066
R; Cole, S.T.; Eiglmeier, K.; Duthoy, S.; Felt:
R.; Davies, R.M.; Devlin, K.; Duthoy, S.; Felt:
eam, M.A.; Rutherford, K.M.
Nature 409, 1007-1011, 2001
A; Authors: Rutter, S.; Seeger, K.; Simon, S.;
A; Title: Massive gene decay in the leprosy bac
127
                                        RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Authors: Yang, Y.; Young-Bellido, M.; Zhao, G.; Zook, C.; A;Title: Genome of the Bacterium Streptococcus pneumoniae St A;Reference number: A97872; MUID:21429245; PMID:11544234 A;Accession: G98058 A;Status: preliminary
                         hypothetical
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A;Gene: ML1255
C;Superfamily: Mycobacterium leprae hypothetical protein MLCB1610.16
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                                                                                                                                                                                                                                                                                                                                                                                                                                       conserved hypothetical protein ML1255 [imported] - Mycobacterium leprae C;Species: Mycobacterium leprae C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 10-May-2001
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A; Residues: 1-924 <KUR>
A; Cross-references: GB:
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Matches 7
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Best Local S
Matches 6
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Residues: 1-163 <STO>
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Best Local
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7; Conserv
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                         Rv2468c -
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77.8%;
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                         Mycobacterium tuberculosis (strain H37RV)
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Pred. No. 12;
0; Mismatches
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Pred. No. 45;
2; Mismatches
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Pred. No. 45;
2; Mismatches
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y bacillus.
; PMID:11234002
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Holroyd,
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R;James, K.D.; Parkhill, J.; Barrell, B.G.; Rajandream, submitted to the EMBL Data Library, March 1999
A;Reference number: Z22949
A;Accession: T45243
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C;Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 28-Jul-2000
C;Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 28-Jul-2000
C;Accession: C70866
R;Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.;
Connor, R.; Davies, R.; Deviin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Ho
Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
Nature 393, 537-544, 1998
Nature 393, 537-544, 1998
                                                                                                                lysosomal membrane glycoprotein IAMP-1 - mouse C;Species: Mus musculus (house mouse) C;Date: 30-Sep-1989 #sequence_revision 30-Sep-1989 #text_ch C;Accession: A28067 R;Chen, J.W.; Cha, Y.; Yukeel, K.U.; Gracy, R.W.; August, J. Biol. Chem. 263, 8754-8758, 1988 A;Title: Isolation and sequencing of a cDNA clone encoding A;Reference number: A28067; MUID:88243732; PMID:3379044 A;Accession: A28067
A;Molecule type: mRNA
A;Residues: 1-382 <CHE>
A;Cross-references: GB:J03881; NID:g198706; PIDN:AAA39411.1; PID:g293692
A;Note: the authors translated the codon ATT for residue 1 as Leu and CCC
C;Superfamily: lysosome-associated membrane protein
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C; Superfamily:
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C;Species: Mycobacterium leprae
C;Date: 21-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 28
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C;Superfamily:
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A;Residues: 1-167 <COL>
A;Cross-references: GB:AL021246; GB:AL123456; NID:g3261507; PIDN:CAA16045.1; PID:g279
A;Experimental source: strain H37Rv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Authors: Sqares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell A;Title: Deciphering the biology of Mycobacterium tuberculosis from the A;Reference number: A70500; MUID:98295987; PMID:9634230 A;Accession: C70866
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Pred. No. 13;
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Pred. No.
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a C C C

for

residue

8,3

C; Keywords:

glycoprotein;

membrane

protein

ar

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A,Title: Molecular characterization of P2B/LAMP-1, a major A;Reference number: A60534; MUID:90002989; PMID:2676155 A;Accession: A60534
                                                                                                                                                                             A;Cross-references: EMBL:X14765; NID:g56577; PIDN:CAA32873 A;Note: part of this sequence, including the amino end of C;Superfamily: lysosome-associated membrane protein
                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:J03672
A;Note: the authors translated the codon GGG for residue 15 as Val
A;Note: the authors translated the codon GGG for residue 15 as Val
R;Himeno, M.; Noguchi, Y.; Sasaki, H.; Tanaka, Y.; Furuno, K.; Kono, A.; Sakaki, Y.; Kat
FEBS Lett. 244, 351-356, 1989
A;Title: Isolation and sequencing of a cDNA clone encoding 107 kDa sialoglycoprotein in
A;Reference number: S03331; MUID:89153580; PMID:2920835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              glycoproteins.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120K lysosomal membrane glycoprotein precursor - rat

N;Alternate names: sialoglycoprotein

C;Species: Rattus norvegicus (Norway rat)

C;Date: 18-Oct_1989 #sequence_revision 30-Sep-1991 #text_change 20-Aug-1999
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C; Superfamily:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P2B/LAMP-1 precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change
C;Accession: A60534
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A; Residues: 1-407 < HOW>
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A;Residues: 22-407 <HIM>
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                                                                      Query Match
Best Local S
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                           Reference number: A30200; MUID:89017240; PMID:3174652; Accession: A30200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C.L.; Granger, B.L.; Hull, M.; Green, S.A.; Gabel, C.A.; Helenius, A.; atl. Acad. Sci. U.S.A. 85, 7577-7581, 1988

Berived protein sequence, oligosaccharides, and membrane insertion of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
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A; ACCESSION E type: mRNA
A; Residues: 'MARGGRVR', 40-416 <
A; Residues: GB: J03263;
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J. Biol. Chem. 268, 9014-9022, 1993
A,Title: The genes of major lysosomal membrane glycoproteins,
A,Title: The genes of Major lysosomal membrane glycoproteins,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lysosome-associated membrane protein 1 precursor - human N; Alternate names: lysosomal-associated membrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type: protein
A;Molecule type: protein
A;Residues: 31-35;72-74, X',76-77;144-153;177-179,'X',181-187;215-219;255-259,'X',261
R;Carlsson, S.R.; Lycksell, P.O.; Fukuda, M.
Arch. Biochem. Biophys. 304, 65-73, 1993
A;Title: Assignment of O-glycan attachment sites to the hinge-like regions of human 1
A;Reference number: S34737; MUID:93312023; PMID:8323299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Biol. Chem. 265, 20488-20495, 1990
A;Title: The polylactosaminoglycans of human
A;Reference number: A23656; MUID:91056099; PP
A;Accession: A23656
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A;Title: Cloning of cDNAs encoding human lysosomal membrane glycoproteins, la,Reference number: A92699; MUID:89066687; PMID:3198605
A; Map position: 13q34-13q34
C; Superfamily: lysosome-associated membrane protein
C; Keywords: glycoprotein; lysosome; transmembrane p
                                                                                                                                                                                                                                                                                                                                                           R;Viitala, J.; Carlsson, S.R.; Siebert, P.D.; Fukuda, M. Proc. Natl. Acad. Sci. U.S.A. 85, 3743-3747, 1988
A;Title: Molecular cloning of cDNAs encoding lamp A, a human A;Reference number: A30210; MUID:88234502; PMID:3131762
A;Accession: A30210...
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R;Carlsson, S.R.; Fukuda, M.
J. Biol. Chem. 264, 20526-20531, 1989
A;Title: Structure of human lysosomal membrane glycoprotein 1.
A;Reference number: A32685; MUID:90062189; PMID:2584229
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A;Molecule type: protein
A;Residues: 57-71;116-135;215-234 <CAR>
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A;Residues: 28-35, 'x',37-39, 'x',41-43, 'x',45-58
R;Carlsson, S.R.; Fukuda, M.
J. Biol. Chem. 265, 20488-20495, 1990
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A;Title: Purification and characterization of human lysosoma
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A;Residues: 1-416 <S
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A; Residues: 1-416 < FUK>
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                                                                                 A; Cross-references: GDB:120137; OMIM:153330
                                                                                                                                                                               A;Molecule type: protein
A;Residues: 116-119,'X',121-128,'X',130-131,'X',133-135;163,'X',165-179,'X',181-189,'
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F;1-27/Domain: signal sequence #status predicted <SIG>
F;28-416/Product: lysosomal membrane glycoprotein 1 #status predicted <MAT>
F;28-381/Domain: lysosomal membrane glycoprotein 1 #status predicted <LYS>
F;382-405/Domain: transmembrane #status predicted <TMM>
F;382-405/Domain: intracellular #status predicted <CYT>
F;364-405/Domain: intracellular #status predicted <CYT>
F;364,40,33,102,106,240,248,229,231,379/Binding site: carbohydrate (Asn) (covalent) #status F;40-79,154-190,230-268,337-374/Disulfide bonds: #status experimental F;40-79,154-190,230-268,337-374/Disulfide bonds: #status experimental F;61,75,120,129,164,180,222,227,260/Binding site: carbohydrate (Ger) (covalent) (partial) #status experimental F;196/Binding site: carbohydrate (Fir) (covalent) #status experimental F;196/Binding site: carbohydrate (Fir) (covalent) #status experimental
A;Accessio
A;Status:
                                                                                                      hypothetical protein M106.3 - Caenorhabditis elegans C;Species; Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #:C;Accession: T23740 R;Palmer, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Introns: 237/1; 354/1
(;Superfamily: zip protein
C;Keywords: glycoprotein; transmembrane protein
C;Keywords: glycoprotein; transmembrane protein
F;1-21/Domain: signal sequence #status predicted <MAT>
F;22-500/Product: zip protein #status predicted <MAT>
F;22-470/Domain: extracellular #status predicted <TMM>
F;466-486/Domain: intracellular #status predicted <TMM>
F;496-500/Domain: intracellular #status predicted <INT>
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A; Residues: 1-500 <ZHAl>
A; Cross-references: EMBL
                          submitted to the EMBL Data A; Reference number: Z19792 A; Accession: T23740
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A;Reference number: S00483; MUID:88296414; PMID:3402433
A;Accession: S00483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
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Matches
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;Residues: 1-500 <ZHA>
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Date: 31-Mar-1991 #sequence_revision 31-Mar-1991 #text_change 22-Jun-1999;Accession: S00483; A37532
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cross-references: GB:X07450; NID:g8854; Accession: A37532
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      :Zhao, D.B.; Cote, S.; Jaehnig, F.; Haller, J.; Jaeckle, H.
MBO J. 7, 1115-1119, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ,232,317,374,448/Binding site: carbohydrate
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les 6; Conserv
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preliminary; translated from GB/EMBL/DDBJ
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                                                                                                                                                             #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
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er protein
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Pred. No. 33;
1; Mismatches
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Pred. No. 40;
0; Mismatches
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A;Residues: 1-270 - KHOHS
A;Residues: 1-270 - KHOHS
A;Cross-references: GB:M55936; NID:g203659; PIDN:AAA40997.1; PID:g203660
A;Note: the authors translated the codon CAG for residue 7 as Gly and GAC
C;Superfamily: gap junction protein
F;1-20/Domain: intracellular #status predicted <INT1>
F;21-40/Domain: intracellular #status predicted <INT1>
F;41-73/Domain: extracellular #status predicted <INT2>
F;41-96/Domain: transmembrane #status predicted <INT2>
F;41-96/Domain: transmembrane #status predicted <INT2>
F;123-159/Domain: transmembrane #status predicted <INT3>
F;123-159/Domain: transmembrane #status predicted <INT3>
F;185-207/Domain: transmembrane #status predicted <INT3>
F;185-207/Domain: transmembrane #status predicted <INT3>
                                                                                                                                                                                                                                                                                                                       C;Date: 13-Sep-1991 #sequence_revision 02-Jun-1994 #text_
c;Accession: A38737
R;Hoh, J.H.; JOhn, S.A.; Revel, J.P.
J. Biol. Chem. 266, 6524-6531, 1991
J. Hol. Chem. 266, 6524-6531, 1991
A;Title: Molecular cloning and characterization of a new
A;Reference number: A38737; MUID:91177912; PMID:1706719
A;Recession: A38737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic Acids Res. 28, 862-867, 2000
A;Title: DNA sequence analysis of the photosynthesis region
A;Reference number: Z25222; MUID:20115911; PMID:10648776
A;Accession: T50707
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N;Alternate names: connexin-31
C;Species: Rattus norvegicus (Norway
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R; Choudhary, M.; Kaplan,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                urease accessory protein D [imported] - Rhodobacter sphaeroides
C;Species: Rhodobacter sphaeroides
C;Date: 21-Jul-2000 #sequence_revision 21-Jul-2000 #text_change
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A; Introns: 34/1; 175/3;
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A;Residues: 1-529 <WIL>
A;Cross-references: EMBL:Z46935; PIDN:CAA87050.1; GSPDB:GN00020; CESP:M106.3
A;Experimental source: clone M106
                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
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Pred. No.
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Pred. No.
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on 02-Jun-1994 #text_change
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Listing first 45 summaries
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Copyright (c) 1993 - 2004 Compugen Ltd.
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002739 mus musculu
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061001 mus musculu
p40076 saccharomyc
p27859 escherichia
p34291 caenorhabdi
p49309 rhizobium m
p08154 rattus norv
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p42744 arabidopsis
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p22849 equine herp
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    between the Swiss Institute of Bioinformatics and the EMBL outstation -
the European Bioinformatics Institute. There are no restrictions on its
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ALIGNMENTS

1 MOUSE
01-AUG-1990 (Rel. 15, Last sequence update) 01-NOV-1997 (Rel. 35, Last annotation update)
Lysosome-associated membrane glycoprotein 1 precursor (LAMP-1) (LGP-A) (LGP-120) (CD107A) (P2B).
LAMPI OR LAMP-1.
Chordata; Craniata; Vertebrata; E
Sutheria; Rodentia; Sciurognathi; Muridae; =10090;
SECUTION OF SECUTI
MEDLINE=90307738; PubMed=2142158;
Granger B.L., Green S.A., Gabel C.A., Howe C.L., Meliman L., Helenius A.;
"Characterization and cloning of lgp110, a lysosomal membrane
glycoprotein from mouse and rat cells."; J. Biol. Chem. 265:12036-12043(1990).
SEQUENCE FROM N.A.
Submitted (FEB-1990) to the EMBL/GenBank/DDBJ databases.
SEQUENCE OF 25-406 FROM N.A., AND PARTIAL SEQUENCE.
y R.W., August
"Isolation and sequencing of a cDNA clone encoding lysosomal membrane
DISULFIDE BONDS.
MEDLINE=90237040; PubMed=2332434;
"The disulfide structure of mouse lysosome-associated membrane
procein 1."; J. Biol. Chem. 265:7419-7423(1990).
 -i- FUNCTION: PRESENTS CARBOHYDRATE LIGANDS TO SELECTINS. ALSO IMPLICATED IN TUMOR CELL METASTASIS.
-i- SUBCELLULAR LOCATION: Type I membrane protein. Lysosomal. THIS PROTEIN SHUTTLES BETWEEN LYSOSOMES, ENDOSOMES, AND THE PLASMA
MEMBRANE. - 1- PTM: O- AND N-GLYCOSYLATED: SOME OF THE N-GLYCANS ATTACHED TO
LAMP-1 ARE POLYLACTOSAMINOGLYCANS (BY SIMILARITY). - SIMILARITY: BELONGS TO THE LAMP FAMILY.
<u>.</u> :
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RESULT 2
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ID LMP1_RAT
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EMBL; M25244; AAA39869.1; --
EMBL; J03881; AAA39411.1; --
PIR; A28067; A28067.
PIR; A60534; A60534.
                                                   p14562; p97620; created)
01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Lysosome-associated membrane glycoprotein 1 precursor (LAMP-1)
LAMP1 OR LAMP-1.
LAMP1 OR LAMP-1.
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PROSITE; PS00311; LAMP 2; 1.
Transmembrane; Glycoprotein; Lysosome; Signal.
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Pfam; PF01299; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP
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            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
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                                            norvegicus (Rat).
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 This SWISS-PROT entry is copyright. It is produced through a continuous the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and for entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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STRAIN-Wistar Kyoto; TISSUE-Aortic smooth muscle;
STRAIN-Wistar Kyoto; TISChwartz S.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Isolation and sequencing of a cDNA clone encoding 107 kDa sialoglycoprotein in rat liver lysosomal membranes."; FEBS Lett. 244:351-356(1989).
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Sakaki Y., Kato K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 22-407 FROM N.A. MEDLINE=89153580; PubMed=2920835; Himeno M., Noguchi Y., Sasaki H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Derived protein sequence, oligosaccharides, and membrane insertion of the 120-kDa lysosomal membrane glycoprotein (1gp120): identification of a highly conserved family of lysosomal membrane
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SEQUENCE FROM N.A.
MEDLINE=89017240; PubMed=3174652;
HOWE C.L., Granger B.L., Hull M.,
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EMBL; X14765; CAA32873.1; -.
EMBL; U75406; AAB19108.1; -.
PIR; A30200; A30200.
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PROSITE; PS00311; LAMP 2; 1.
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PTM: O- AND N-GLYCOSYLATED; SOME OF THE N-GLYCANS ATTACHED LAMP-1 ARE POLYLACTOSAMINOGLYCANS (BY SIMILARITY).

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Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                         Mane S.M., Marzella L., Bainton D.F. Hildreth J.E.K., August J.T.; "Purification and characterization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A., AND SEQUENCE MEDLINE=89066687; PubMed=3198605; Fukuda M., Viitala J., Matteson J
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                       DISULFIDE BONDS.
MEDLINE=90062189;
                                                                                                glycoproteins.
Arch. Biochem.
                                                                                                                                                                                                                        SEQUENCE OF 28-58 MEDLINE=89104438;
                                                                                                                                                                                                                                                                                                                                        Viitala J., Carlsson S.R., Siebert P.D., Fukuda M.; "Molecular cloning of cDNAs encoding lamp A, a human membrane glycoprotein with apparent Mr approximately
                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 32-416 FROM N.A., AND MEDLINE=88234502; PubMed=3131762;
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     Fukuda M
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                          PubMed=2584229;
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GO: GO:005587; C:integral to plasma membrane; TAG; GO:0005764; C:lysosome; TAS.
GO; GO:0005764; C:membrane fraction; TAS.
InterPro; IPRO02000; Lamp.
Pfam; PF01299; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP.
PROSITE; PS00311; LAMP_1; 2.
PROSITE; PS00311; LAMP_2; 1.
PROSITE; PS00310; LAMP_1; 2.
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LUMENAL DOMAIN

POTENTIAL.
CYTOPLASMIC (POTENTIAL)
FIRST LUMENAL DOMAIN.

LUMENAL

(POTENTIAL)

LYSOSOME-ASSOCIATED MEMBRANE GLYCOPROTEIN

N-LINKED (GLCNAC...).
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N-LINKED (GLCNAC...).
(POLYLACTOSAMINOGLYCAN).
N-LINKED (GLCNAC...).
N-LINKED (GLCNAC...).
N-LINKED (GLCNAC...).
N-LINKED (GLCNAC...).

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Carlsson S.R., Lycksell P.-O., Fukuda M.;

"Assignment of O-glycan attachment sites to the hinge-like r
human lysosomal membrane glycoproteins lamp-1 and lamp-2.";
Arch. Biochem. Biophys. 304:65-73(1993).

-i- FUNCTION: PRESENTS CARBOHYDRATE LIGANDS TO SELECTINS. AI

-i- FUNCTION: PRESENTS CARBOHYDRATE LIGANDS TO SELECTINS. AI

-i- SUBCELLULAR LOCATION: Type I membrane protein. Lysosomal

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "The polylactosaminoglycans of human lang-1 and lamp-2. Localization on the J. Biol. Chem. 265:20488-20495(1990).
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                                                                                                                                                                                                                  PTM: O- AND N-GLYCOSYLATED; SOME OF THE 18 N-GLYCANS; LAMP-1 ARE POLYLACTOSAMINOGLYCANS.
SIMILARIT; BELONGS TO THE LAMP FAMILY.
DATABASE: NAME=PROW; NOTE=CD guide CD107a entry;
WWW-"http://www.ncbi.nlm.nih.gov/prow/cd/cd107a.htm".
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MEDLINE=88296414; PubMed=3402433;
Zhao D.-B., Code S., Jaehnig F., Haller J., Jaeckle H.;
Zhpper encodes a putative integral membrane protein recormal axon patterning during Drosophila neurogenesis."
EMBO J. 7:1115-1119(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Haxpoda; Inse
Neoptera; Endopterygota; Diptera; Brachycera;
Ephydroidea; Drosophilidae; Drosophila.
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P10379; Q96084; Q98087;
01-NAR-1989 (Rel. 10, Created)
15-SEP-2003 (Rel. 42, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
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N-LINKED (GLCNAC...).
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RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K., RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M., RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J., RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.J., Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A., RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z., RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z., RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X., RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X., RA McInto G., Milshina N.V., Mobarry C., Morris J., Moshrefi A., RA McInto G., Milshina N.V., Mobary C., Morris J., Moshrefi A., RA McInto S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L., RA Rabine T.K., Remington K.A., Nixon K., Nisskern D.R., Pacleb J.M., RA Shire E., Spradling A.C., Standers R.D.C., Scheeler F., Shen H., RA Spier E., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T., RA Spier E., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T., RA Spier E., Spradling A.C., Stapleton M., Strong R., Sun E., Shen B.C., Nassarman D.A., Weinstock G.M., Weissenbach J., Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J., Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J., RA Milliams S.M., Woodage T., Worley K.C., Mu D., Yang S., Yao Q.A., RA Milliams S.M., Shong W., Zhou X., Zhang G., Zhao Q., Zheng L., RA Scheng X.H., Zhong F.N., Zhong M., Zhou X., Zhu X., Smith H.O., RA Ghbe R.A., Myers E.M., Rubin G.M., Venter J.C., Zhu X., Smith H.O., Islance 287:2185-2195(2000).
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STRAIN=Berkeley; TISSUE=Embryo;

STRAIN=Berkeley; TISSUE=Embryo;

MEDLINE=22428066; PubMed=12537569;

MEDLINE=2242806; PubMed=12537569;

MEDLINE=224806; 
Flybase; FBgn00040
Differentiation; N
SIGNAL 1
CHAIN 22
DOMAIN 22
TRANSMEM 466
DOMAIN 487
DOMAIN 380
CARBOHYD 35
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Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Hradecky P., Huang Y., Kaminker J.S., Millburn G.H., Prochnik S.E.
Smith C.D., Tupy J.L., Whitfield E.J., Bayraktaroglu L., Berman B.
Bettencourt B.R., Celniker S.E., de Grey A.D.N.J., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
                                                                                                                                                                                                                                                                                                                     EMBL; X07450; CAA30332.1; -.
EMBL; AE003465; AAF47312.2; .
EMBL; AX052139; AAK93563.1; .
EMBL; S00483; EFFF.
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RX MEDILINE-22388257; PubMed=12477932;

RA Strausberg R.D., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Alteschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Alteschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Alteschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heieh F.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Stapleton M., J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Jones G.J., Abramson R.D., Mullahy S.J.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Glabbs R.A.,

RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Glabbs R.A.,

RA Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Hotherifeld Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J.M., Marra M.A.;

"Generation and initial analysis of more than 15,000 full-length
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MEDLINE=99057343; PubMed=9843209;
Richard G., Smith L.E., Bailey R.A., Itin P., Hohl D.,
Epstein E.H. Jr., Digiovanna J.J., Compton J.G., Bale S.J.;
Epstein E.H. Jr., Digiovanna J.J., Compton J.G., Bale S.J.;
"Mutations in the human connexin gene GJB3 cause erythrokeratodermia variabilis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=98369649; PubMed=9704026;
Wenzel K., Manthey D., Willecke K., Grzeschik K.-H., Traul
"Human gap junction protein connexin31: molecular cloning
expression analysis.";
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"Molecular cloning of h
Submitted (FEB-1999) to
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Mammalia; Eutheria; Primates;
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human connexin 31 and 31.1 genes.";
to the EMBL/GenBank/DDBJ databases.
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EMBL; AJ004856; CAA06165.1; -.
EMBL; AF052692; AAD11816.1; -.
EMBL; AL121988; CAB90269.1; -.
EMBL; AF099730; AAC95471.1; -.
EMBL; BC012918; AAH12918.1; -.
PIR; JE0274; JE0274.
InterPro; IPR000500; Connexin.
Pfam; PF00029; connexin; 1.
PRINTS; PR00206; CONNEXIN.
SMART; SM00037; CUX; 1.
PROSITE; PS00407; CONNEXINS_1;
PROSITE; PS00408; CONNEXINS_2;
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Richard G., Brown N., Smith L.E., Terrinoni A., Melino Mackie R.M., Bale S.J., Uitto J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20062991; PubMed=10594760; Wilgoss A., Leigh I.M., Barnes M.R., Dopping-Hepenstal P., Wilgoss A., Leigh I.M., Kennedy C.T., Kelsell D.P., Eady R.A.J., Walter J.M., Kennedy C.T., Kelsell D.P., "Identification of a novel mutation R42P in the gap junction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=99057344; PubMed=9843210;
Xia J.-H., Liu C.-Y., Tang B.S., Pan Q.,
Zhang B.R., Xie W., Hu D.X., Zheng D., S
Yu K.P., Liao X.D., Feng Y., Yang Y.F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [6]
                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/an or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "The spectrum of mutations in erythrokeratodermias ---
novo mutations in GUB3.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      beta-3 associated with autosomal dominant erythrokeratoderma variabilis.";
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MEDLINE=20062991;
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DATABASE: NAME=Hereditary hearing loss
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DATABASE: NAME=Connexin-deafness homepage:
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WWW="http://www.uia.ac.be/dnalab/hhh/"
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Natl. Acad. Sci. U.S.A. 9
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impairment.";
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., Shi X.L., Wang D.A., Xia
F., Xiao J.Y., Xie D.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     homepage;
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 use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                            This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Eventhe European Bioinformatics Institute. There are no restr
                                                                                                                                                                                               SEQUENCE FROM N.A.

MEDLLNB=92347372; PubMed=1322300;

Hennemann H., Schwarz H.J., Willecke K.;

"Characterization of gap junction genes expressed in F9 embryonic carcinoma cells: molecular cloning of mouse connexin31 and -45 carcinoma cells:
                                                                                                                                                                                                                                                                                Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                             Gap junction beta-3
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                                                                                                   -!- FUNCTION: One gap junction consists of a cluster of closely packed pairs of transmembrane channels, the connexons, through which materials of low mw diffuse from one cell to a neighboring cell.
-!- SUBUNIT: A connexon is composed of a hexamer of connexins.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
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(Rel. 24, Last sequence update)
(Rel. 41, Last annotation updat
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                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a between the Swiss institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fcentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=91177912; PubMed=1706719;
Hoh J.H., John S.A., Revel J.-P.;
"Molecular cloning and characterization of a new member of the gap
junction gene family, connexin-31.";
J. Biol. Chem. 266:6524-6531(1991).
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PRINTS; PR00206; CONNEXIN.
                 InterPro; IPR000500; Con
Pfam; PF00029; connexin;
PRINTS; PR00206; CONNEXI
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Mammalia; Eutheria; Rodentia;
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                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: One gap junction consists of a cluster of closely packed pairs of transmembrane channels, the connexons, through which materials of low mw diffuse from one cell to a neighboring cell. SUBUNIT: A connexon is composed of a hexamer of connexins. SUBCELLULAR LOCATION: Integral membrane protein.
SUBCELLULAR LOCATION: OTHE CONNEXIN FAMILY. BETA-TYPE (GROUP I)
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SEQUENCE FROM N.A.
MEDLINE=92381038; PubMed=1512260;
Mennemann H., Dahl E., White J.B., Schw.
Chang S., Nicholson B.J., Willecke K.;
Chang S., Nicholson genes, connexin 31.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CXB5_MOUSE
Q02739;
Q1-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Two gap junction genes, connexin 31.1 and 30.3, are closely linked on mouse chromosome 4 and preferentially expressed in skin.";

J. Biol. Chem. 267:17225-17233 (1992).

-i. FUNCTION: One gap junction consists of a cluster of closely packed pairs of transmembrane channels, the connexons, through which materials of low mw diffuse from one cell to a nesighboring cell.

-i. SUBJUNIT: A connexon is composed of a hexamer of connexins.

-i. SUBCELIULAR LOCATION: Integral membrane protein.

-i. SINILARITY: EXPRESSED in skin, much lower in testis.

-i. SINILARITY: BELONGS TO THE CONNEXIN FAMILY. BETA-TYPE (GROUP I)

SUBSPAMILY.
                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a coptween the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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01-FEB-1994 (Rel. 28, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation updat
Gap junction beta-5 protein (Connexin 31.1)
GJB5 OR CXN-31.1.
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Ver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS004
PROSITE; PS004
Gap junction;
DOMAIN
PROSITE; PS00407; CONNEXINS_1; 1. 1. PROSITE; PS00408; CONNEXINS_2; 1. Gap junction; Transmembrane. CYTO DOMAIN 1 20 CYTO
                                                                                          MGD; MGI:95723; Gjb5.
InterPro; IPR000500; Connexin.
Pfam; PF00029; connexin; 1.
PRINTS; PR00206; CONNEXIN.
SMART; SM00037; CNX; 1.
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                                                                                                                                                                                            PIR; B43433; B43433.
MGD; MGI:95723; Gjbs
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EXTRACELLULAR (POTENTIAL)
CYTOPLASMIC (POTENTIAL).
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31.1) (
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RESULT 9
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Best Local S
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01-DEC-1992
01-DEC-1992
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28-FEB-2003 (Rel. 41, Last annotation update)
Gap junction beta-5 protein (Connexin 31.1) (GJB5 OR CXN-31.1.
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SEQUENCE
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                                                                                                                                                                                                                                           PROSITE; PS00407; CONNEXINS_1; PROSITE; PS00408; CONNEXINS_2;
                                                                                            PRINTS; PR00206; CONNEXIN. SMART; SM00037; CNX; 1.
                                                                                                                       EMBL; M76533; AAB38538.1; -
PIR; D42053; D42053.
InterPro; IPR000500; Connexin.
                                                                                                                                                                                                                                                                                                                                                MEDLINE=92112940; PubMed=1370487;
Haefliger J.-A., Bruzzone R., Jen
                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia; NCBI_TaxID=10116;
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members of the connexin family of
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CYTOPLASMIC (POTENTIAL).
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EXTRACELLULAR (POTENTIAL).
POTENTIAL.
CYTOPLASMIC (POTENTIAL).
POTENTIAL.
EXTRACELLULAR (POTENTIAL).
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Pred. No.
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CYTOPLASMIC (POTENTIAL).
POTENTIAL.
EXTRACELLULAR (POTENTIAL
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EXTRACELLULAR (POTENTIAL)
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Sciurognathi; Muridae; Murinae; Rattus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    271
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mapping.";
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RESULT 10
CXB5_HUMAN
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RX MEDLINE=22388257; PubMed=12477932;
RX MEDLINE=2238257; PubMed=12477932;
RA Strausberg R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Klauener R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmen R.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmen G.J., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmen G.M., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheet T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Butterfield Y.S.N., Krzywinski M.I., Schautz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Schein J.E., Jones S.J.M., Marra M.A.;
RA Rodriguez A.G., Schein J.E., Jones S.J.M., Marra M.A.;
RA Rodriguez A.G., Schein J.E., Jones S.J.M., Marra M.A.;
RA Rodriguez A.G., Schein J.E., Jones S.J.M., Marra M.A.;
RA Rodriguez A.G., Schein J.E., Jones S.J.M., Marra M.A.;
RA Rodriguez A.G., Schein J.E., Jones S.J.M., Marra M.A.;
RA Rodriguez A.G., Schein J., Schautz J., Myers R.M.
RA Rodriguez A.G., Schein J., Jones S.J.M., Marra M.A.;
RA Rodriguez A.G., Schein J., Schautz J., Myers R.M.
RA Rodriguez A.G., Schein J., Schautz J., Myers 
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Best Local
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095377; Q9UPA3;
15-JUL-1999 (Rel. 38, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
15-SEP-2003 (Rel. 42, Last annotation update)
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DOMAIN
SEQUENCE
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Xia J.-H.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Pancreas;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=99057343; PubMed=9843209;
Richard G., Smith L.E., Bailey R.A., Itin P., Hohl D.,
Epstein E.H. Jr., DiGiovanna J.J., Compton J.G., Bale S.J.;
"Mutations in the human connexin gene GJB3 cause erythrokeratodermia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
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STRAIN=C57BL/6 X CBA; TISSUE-Lung;

MEDLINE=96081906; PubMed=7499364;

Miner J.H., Levis R.M., Sanes R.;

"Molecular cloning of a novel laminin

expression in adult mouse tissues.";

J. Biol. Chem. 270:28523-28526(1995).
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                                                                                                                                                                                                      SEQUENCE OF 1-92 FROM N.A., AND SEQUENCE OF 41-46.
MEDLINE=21818471; PubMed=11829758;
Garbe J.H., Gohring W., Mann K., Timpl R., Sasaki T.;
"Complete sequence, recombinant analysis and binding to laminins "Complete sequence, recombinant analysis and binding to laminins sulphated ligands of the N-terminal domains of laminin alpha3B ar
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Pfam; PF00029; connexin; 1.
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AF052693; AAD18005.1;
AL121988; CAB90271.1;
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InterPro; IPR006209; EGF like.
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InterPro; IPR001949; Laminin_EGF.
InterPro; IPR001951; Laminin_GF; 18.
Pfam; PF00052; laminin_Neerm; 1.
Pfam; PF00053; laminin_Neerm; 1.
Pfam; PF00053; laminin_Neerm; 1.
Pfam; PF00055; laminin_GF; 18.
Pfam; PF00055; laminin_GF; 18.
Pfam; PF00055; laminin_Neerm; 1.
PRONOTE; P0002082; Laminin_B; 1.
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Hypothetical
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                                                                                                                                                                                                                                                                                                             PubMed=9169869,
Dietrich F.S., Mulligan J.T., Hennessy K.M., Yelton M.A., Allen E.,
Araujo R., Aviles E., Berno A., Brennan T., Carpenter J., Chen E.,
Cherry J.M., Chung E., Duncan M., Guzman E., Hartzell G.,
Hunicke-Smith S., Hyman R.W., Kayser A., Komp C., Lashkari D., Lew H.,
Lin D., Mosedale D., Nakahara K., Namath A., Norgren R., Oefner P.,
Oh C., Petel F.X., Roberts D., Sehl P., Schramm S., Shogren T.,
Smith V., Taylor P., Wei Y., Botstein D., Davis R.W.;
"The nucleotide sequence of Saccharomyces cerevisiae chromosome V.",
Nature 387:78-81(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Sacch
Saccharomycetales; Saccharomycetaceae; Saccharomyces
NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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          U18916;
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(Rel. 42, Last annotation update)
1 12.9 kDa protein in SCS2-GLO3 in
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          AAC03219.1;
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Pred. No. 3e+0
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No. 3e+02;
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OF 27859; P27860; P78129;
DT 16-OCT-2001 (Rel. 40, Last sequence updated)
DT 28-FEB-2003 (Rel. 41, Last annotation upper property of the coll.
DT 28-FEB-2003 (Rel. 41, Last annotation upper property of the Escherichia Coll.
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DE 28-FEB-2003 (Rel. 41, Last annotation upper property of the Escherichia Coll.
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                                                                                         PARTIAL SEQUENCE OF 1-6, AND CHARACTERIZATION.

RR PARTIAL SEQUENCE OF 1-6, AND CHARACTERIZATION.

RA MEDLINE=20287539; PubMed=10747959;

RW Wexler M., Sargent F., Jack R.L., Stanley N.R., Bogsch E.G.,

RA Robinson C., Berks B.C., Palmer T.;

RA Robinson C., Berks B.C., Palmer T.;

TatD is a cytoplasmic protein with DNase activity. No requirement for TatD family proteins in sec-independent protein export.";

J. Biol. Chem. 275:16717-16722(2000).

C. -- FUNCTION: SHOWS DNASE ACTIVITY.

C. -- COPACTOR: Magnesium.

C. -- COPACTOR: Magnesium.

C. -- SUBGUNIT: MONORMER (Probable).

C. -- SUBGUNIT: MONORMER (Probable).

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C. -- SUBGULIULAR LOCATION: Cytoplasmic.

C. -- CAUTION: REF. 1 SEQUENCE DIFFERS FROM THAT SHOWN DUE TO A FRAMESHIFT ERROR.

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Bailey M.J.A., Koronakis V., Schmoll T., Hughes C.;
"Scherichia coli HlyT protein, a transcriptional activator of haemolysin synthesis and secretion, is encoded by the rfaH (sfrB) locus required for expression of sex factor and lipopolysaccharide genes.";
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SGD; S0000923; Southerin.

Hypothetical protein.

SEQUENCE 114 AA; 12941 MW;
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STRAIN=K12 / MG1655;
MEDLINE=92358234; PubMed=1379743;
MEDLINE=92358234; PubMett G. III, Burland V.D., B
Daniels D.L., Plunkett G. III, Burland V.D., B
"Analysis of the Escherichia coll genome: DNA
from 84.5 to 86.5 minutes.";
Science 257:771-778(1992).
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Enterobacteriaceae; Escherichia.
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A sequence of the region
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PIR; C88571; C88571; WormPep; C0585.3; CE17369.
Hypothetical protein.
SEQUENCE 401 AA; 43472 M
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P34291;
P34291;
01-FEB-1994
30-MAY-2000
                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the EMropean Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreement (See http://www.isb-sorsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Caenorhabditis elegans.
Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Phabditidae; Peloderinae; Caenorhabditis.
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EMBL; M87049; AAA67637.1; ALT FRAME.
EMBL; AE000459; AAC76843.1; ALT FRAME.
EMBL; AE000459; AAC76844.1; ALT FRAME.
EMBL; X65013; -; NOT ANNOTATED CDS.
EMBL; AJ005390; CAA06727.1; ALT INIT.
                                                                                                                                                                                                                                                                                                                                                                                                                        Durbin R.; Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.
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InterPro; IPR001130; TatD_DNase.
Pfam; PF01026; TatD_DNase; 1.
PROSITE; PS01137; TATD 1; FALSE_NEG.
PROSITE; PS01090; TATD 2; 1.
PROSITE; PS01091; TATD 3; 1.
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SEQUENCE 260 AA; 28974 MW; C18FB5269849746F CR
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1 43.5 kDa protein COSB5.3 in chromosome
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01-FEB-1996
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Rossbach S., Kulpa D.A., Rossbach U., de Bruijn F.J.;
Rossbach S., Kulpa D.A., Rossbach U., de Bruijn F.J.;
"Molecular and genetic characterization of the rhizopine catabolism (mocABRC) genes of Rhizobium meliloti L5-30.";
Mol. Gen. Genet. 245:11-24 (1994).
-1- FUNCTION: COULD PLAY A REGULATORY ROLE IN THE TRANSCRIPTION OF TOMOC GENES FOR RHIZOPINE CATABOLISM. COULD ALSO HAVE AN AMINOTRANSFERASE ACTIVITY.
-1- COFACTOR: Pyridoxal phosphate (Potential).
-1- SIMILARITY: BELONGS TO THE GNTR FAMILY OF TRANSCRIPTIONAL REGULATORS.
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DNA_BIND 38
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SMART; SMO0345; HTH GNTR; 1.
PROSITE; PS00043; HTH GNTR FAMILY; 1.
Transcription regulation; DNA-binding; Transferase; Aminotransferase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR; S51574; S51574. HTH GntR. InterPro; IPR000524; HTH GntR. Pfam; PF00392; gntR; 1. PRINTS; PR00035; HTHGNTR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
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Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Rhizobiaceae; Sinorhizobium/Ensifer group; Sinorhizobium.
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09brd2 homo sapien
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ALIGNMENTS

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Best Local
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                                                                                                              MEDLINE 9911554; pubMed=9916088;
Calcutt M.J., Kim M.F., Karpas A.B., Muhlradt P.F., Wise K.S.;
Calcutt M.J., Kim M.F., Karpas A.B., Muhlradt P.F., Wise K.S.;
Calcutt M.J., Kim M.F., Karpas A.B., Muhlradt P.F., Wise K.S.;
Calcutt M.J., Kim M.F., Karpas A.B., Muhlradt P.F., Wise K.S.;
Calcutt Decomposition of a major surface lipoprotein and a macrophage-activating lipoprotide of Mycoplasma fermentans.";
Interpro, Indun. 67:760-771(1999).

EMBL, AF100324, AAD25734.1; -.
Interpro, IFR000578; Opro011.
Interpro, IFR000578; Upro011.
Pfam; PF00590; TF methylase; 1.
Pfam; PF00590; TF methylase; 1.
PROSITE; P801296; UPF0011; 1.
PROSITE; P801296; UPF0011; 1.
SEQUENCE 236 AA; 26620 MW; F12974232C6E0A35 CRC64;
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01-NOV-1999 (TrEMBLrel. 12,
01-NOV-1999 (TrEMBLrel. 12,
01-MAR-2003 (TrEMBLrel. 23,
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Bacteria; Firmicutes; Mollicutes; Mycoplasmataceae; Mycoplasma.
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                              1 GVNAXSSAF 9
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01-JAN-1998
01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-21311952; PubMed=11418146;
Kuroda M., Ohta T., Uchiyama I., Baba T., Yuzawa H., Kobayashi I.,
Cui L., Oguchi A., Aoki K.-I., Nagai Y., Lian J.-Q., Ito T.,
Kanamori M., Matsumaru H., Maruyama A., Murakami H., Hosoyama A.,
Mizutani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito C.,
Sekimizu K., Hirakawa H., Kuhara S., Goto S., Yabuzaki J.,
Kanehisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., Shiba
Hattori M., Ogasawara N., Hayashi H., Hiramatsu K.,
"Whole genome sequencing of meticillin-resistant Staphylococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 033586;
MEDLINE-2135/209; PubMed=11463916;
Tettelln H., Nelson K.E., Paulsen I.T., Eisen J.A., Read T.D.,
Peterson S., Heidelberg J., DeBoy R.T., Haft D.H., Dodson R.J.,
Durkin.A.S., Gwinn M., Kolonay J.F., Nelson W.C., Peterson J.D.,
Umayam L.A., White O., Salzberg S.L., Lewis M.R., Radune D.,
Holtzapple E., Khouri H., Wolf A.M., Utterback T.R., Hansen C.L.,
McDonald L.A., Feldblyum T.V., Angluoli S., Dickinson T., Hickey E.K.,
Holt I.E., Loftus B.J., Yang F., Smith H.O., Venter J.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lancet 357:1225-1240(2001).

EMBL; AF001782; AAB63265.1;

EMBL; AP003364; BAB58199.1;

EMBL; AP003135; BAB43124.1;
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AGRD OR SAV2037 OR SA1842.1 OR SAS066.

Staphylococcus aureus (strain Mu50 / ATCC Staphylococcus aureus (strain N315), and
                                                                                                                                                                                                                                                   Streptococcus.
NCBI_TaxID=1313;
                                                                                                                                                                                                                                                                                                                                                    Hypothetical SP1652.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE 47 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Whole genome sequencing of aureus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Staphylococcus aureus. Bacteria; Firmicutes;
                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                      Bacteria; Firmicutes;
                                                                                                                                                                                                                                                                                                                           Streptococcus pneumoniae
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al protein SP1652.
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Pred.
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R EMBL; AE008518; AAL00300.1;
Y Hypothetical protein; Commission of the bacterium Streptococcus pn
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Q8CYG6;
01-MAR-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

MEDLINB=21429245, PubMed=11544234;
Hoskins J., Alborn W.E. Jr., Arnold J., Blaszczak L.C., Burgett & Hoskins J., Alborn W.E. Jr., Fritz L., Fu D.-J., Fuller W., Geringer Behoff B.S., Estrem S.T., Fritz L., Fu D.-J., Fuller W., Geringer Gilmour R., Glass J.S., Khoja H., Kraft A.R., Lagace R.B., Leblanc D.J., Lee L.N., Lefkowitz E.J., Lu J., Matsushima P., Leblanc D.J., Lee L.N., Lefkowitz E.J., Lu J., Matsushima P., Leblanc D.J., Lee L.N., Lefkowitz E.J., Mundy C.W., Nicas T.I., MAAhren S.M., M., McLeaster K., Mundy C.W., Nicas T.I., Norris F.H., O'Gara M., Peery R.B., Robertson G.T., Rockey P., Sun P.-M., Winkler M.E., Yang Y., Young-Bellido M., Zhao G., Zook C.A., Baltz R.H., Jaskunas S.R., Rosteck P.R. Jr., Skatrud
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Pfam; PF02687; DUF214; 2.
Hypothetical protein; Complete SEQUENCE 924 AA; 102997 MW;
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Corynebacterineae; Mycobacteriaceae; Mycobacterium NCBI_TaxID=1769;
                                                                                                                                                            Hypothetical
                                                                                                                                                                                          01-JUN-2001
01-OCT-2001
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TIGR; SP1652; -
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Science 293:498-506(2001)
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                                                                  Mycobacterium leprae.
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales,
                                                                                                                                  ML1255.
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e sequence of a
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Lactobacillales; Strepto
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192383CF91548592
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C75B27650ED9C65F CRC64;
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                                                                                                                                                                                          sequence up
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No. 2
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                                                                                                                                                                                                                                                                                                                         163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pneumoniae strain R6.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Streptococcaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
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                                                                                                                                                                                              update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 924;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRC64;
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Geringer C.,
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Best Local (
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O53195;
O1-JUN-1998 (TrEMBLrel. 06, Created)
O1-JUN-1998 (TrEMBLrel. 06, Last seque
O1-MAR-2002 (TrEMBLrel. 20, Last annot
Hypothetical protein Rv2468c.
Rv2468C OR MTV008.24C OR MT2543.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=21128732, PubMed=11234002;

Cole S.T., Eiglmeier K., Parkhill J., James K.D., Thomson N.R.,
Wheeler P.R., Honore N., Garnier T., Churcher C., Harris D.,
Mungall K., Basham D., Brown D., Chillingworth T., Connor R.,
Davies R.M., Devlin K., Duthoy S., Feltwell T., Fraser A., Hamlin N.,
Holroyd S., Hornsby T., Jagels K., Lacroix C.; Maclean J., Moule S.,
Murphy L., Oliver K., Quail M.A., Rajandream M.A., Rutherford K.M.,
Rutter S., Seeger K., Simon S., Simmonds M., Skelton J., Squares R.,
Squares S., Stevens K., Taylor K., Whitehead S., Woodward J.R.,
Barrell B.G.,
"Macsive S., Woodward J.R.,
"Macsive S., Woodward J.R.,"
                             laboratory strains.";
Submitted (APR-2001) to the
EMBL; AL021246; CAA16045.1;
EMBL; AE007091; AAK46843.1;
TIGR; MT2543;
                                                                                                                                                                                                                                                              MEDLINE=98295987; PubMed=9634230; Cole S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris Gordon S.V., Eiglmeier K., Gas S., Barry C.B. III, Tekaia F., Badcock K., Basham D., Brown D., Chillingworth T., Connor R., Badcock K., Basham D., Brown D., Chillingworth T., Connor R., Davies R., Devlin K., Feltwell T., Gentles S., Hamlin N., Holroyd Hornsby T., Jagels K., Krogh A., McLean J., Moule S., Murphy L., Oliver S., Osborne J., Quail M.A., Rajandream M.A., Rogers J., Rutter S., Seeger K., Skelton S., Squares S., Squares R., Sulston J.E., Taylor K., Whitehead S., Barrell B.G.; "Deciphering the biology of Mycobacterium tuberculosis from the complete genome sequence."; Nature 393:537-544(1998)."
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SEQUENCE F
STRAIN=TN;
                                                                                                                                              STRAIN=CDC 1551 / Oshkosh; Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., Hickey Peterson J., DeBoy R., Dodson R., Gwinn M.L., Haft D., Hickey Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzt Belcher A., Utterback T., Weidman J., Khouri H., Gill J., Mik
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Massive gene decay in the leprosy bacillus."; Nature 409:1007-1011(2001).
EMBL; AL583921; CAC31636.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Corynebacterineae; Mycobacteriaceae; Mycobacterium
NCBI_TaxID=1773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hypothetical protein; Complete SEQUENCE 163 AA; 16842 MW;
                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mycobacterium tuberculosis
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                                                                                                                   Whole genome comparison of Mycobacterium tuberculosis clinical
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7; Conserv
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 Rv2468c;
protein;
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Complete
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Pred. No.
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F26A1A2C04E3FD2E
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annotation update)
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, Salzberg :
J., Mikula !
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PRESENTATION OF THE PRESEN
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
Strausberg R.;
Submitted (APR-2001) to the EMBI
Submitted (APR-2001) to the EMBI
EMBL; BC006785; AAH06785.1; -.
InterPro; IPR002000; Lamp.
Pfam; PF00239; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP.
PROSITE; PS00310; LAMP_1; 1.
                                                                                                                                                                                                                                                                               Q922T9
Q922T9;
Q1-DEC-2001 (
01-DEC-2001 (
01-MAR-2003 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9X7B5
Q9X7B5;
Q9X7B5;
01-NOV-1999 (
01-DEC-2001 (
Hypothetical
                                                                                                                                                                                                                                        Similar to lysosomal Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eiglmeier K., Honore N., Woods S.A., "Use of an ordered cosmid library to of Mycobacterium leprae.", Mol. Microbiol. 7:197-206(1993). EMBL, AL049913; CAB43162.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
James K.D., Parkhill
Submitted (MAR-1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. Seeger K.J., Harri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mycobacterium leprae.

Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Mycobacteriaceae; Mycobacterium.
NCBI_TaxID=1769;
                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                                                                                                          NCBI_TaxID=10090;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. MEDLINE=93188700; PubMed=8446027;
                                                                                                                                        EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    138
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7; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GVAAASSAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GVNAXSSAF
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H (MAY-1999)
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169 AA: 1
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(TremBirel. 12, Las
(TremBirel. 19, Las
1 17.4 kDa protein.
                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
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77.8%;
                                                                                                                                                                                                                                                                membrane
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glycoprotein 1 (Fragment).
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RESULT Q96140 PAC Q961
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Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                          Q96140;
Q96140;
01-DEC-2001 (TrEMBLrel. 1
01-DEC-2001 (TrEMBLrel. 1
01-OCT-2002 (TrEMBLrel. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE;
NON TER
SEQÜENCE
Strausberg R.; Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases. EMBL; BC007845; AAH07845.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QBM6L3,
01-OCT-2002 (TrEMBLrel. 22, C
01-OCT-2002 (TrEMBLrel. 23, I
01-MAR-2003 (TrEMBLrel. 23, I
Cytochrome c oxidase subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000298; CytC_oxdse_III.
ProDom; PD000382; CytC_oxdse_III; 1.
PROSITE; PS50253; COX3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C + 2 H(2)O.
-i- SIMILARITY: BELONGS TO TEMBL; AB086256; BAC00834.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Platyh
Cyclophyllidea; Taeniidae;
NCBI_TaxID=6204;
                                                                                           SEQUENCE FROM TISSUE=Brain;
                                                                                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                     Hypothetical protein (Fragment).
Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
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-!- FUNCTION: SUBUNITS I, II AND III FORM THE FUNCTIONAL ENZYME COMPLEX (BY SIMILARITY).
-!- CATALYTIC ACTIVITY: 4 FERROCYTOCHROME C + O(2) = 4 F
                                                                                                                                                                         NCBI_TaxID=9606;
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Mitochondrion.
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2 H(2)0.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA;
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AA; 24442 MW; 4E59E1E14E876C5E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LAMP_2;
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                                                                                                                                                                                                               Chordata;
Primates;
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Last annotation update)
t 3 (EC 1.9.3.1) (Cytochrome
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Pred. No. 76;
1; Mismatches
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Pred. No.
                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
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RESULT 11
Q9BRD2
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Best Local S
Matches
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Pfam; PF01299; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP.
PROSITE; PR003310; LAMP 1; 1.
PROSITE; PS00311; LAMP 2; 1.
                                                                                                                                                      Q9NP13;
Q9NP13;
01-OCT-2000
01-OCT-2000
01-OCT-2002
                                                                                                                                                                                                                                                                                                                                                           PRINTS; PRO0336; LYSASSOCTDMP.
PROSITE; PS00310; LAMP 1; 1.
PROSITE; PS00311; LAMP 2; 1.
NON TER 1
SEQUENCE 311 AA; 33713 MW;
SEQUENCE FROM N.A.
TISSUE=Placenta;
MEDLINE=89066687; PubMed=3198605;
Fukuda M., Viitala J., Matteson J., Carlsson S.R.;
"Cloning of cDNAs encoding human lysosomal membrane glycoproteins, lamp-1 and h-lamp-2. Comparison of their deduced amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2001 (TrEMBLrel. 22, Last annotation update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
Similar to lysosomal-associated membrane protein 1
Homo sapiens (Human).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae
                                                                              NCBI :
                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                         01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
Lysosomal-associated membrane glycoprotein-1 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR002000; Lamp. Pfam; PF01299; Lamp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                           SUDMITTED (APR-2001) to the EMBL; BC006345; AAH06345.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Strausberg R.;
Submitted (APR-2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hypothetical protein.
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                                                                                  _TaxID=9606;
                                                                                                                     sapiens
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                                                                                                                                                                                                       PRELIMINARY;
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                                                                                                                     (Human)
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                                                                                            Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                          76.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                          Score 30;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 30;
Pred. No.
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1; Mismatches
                                                                                            Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                             4A7B38D158709B58
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                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                       355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 311
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2;
                                                                                                                                                                                                                                                                                                                                        DB 4;
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                                                                                                                                                                                                                                                                                                                                    Length 311;
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RESULT OBVH34 ID Q8 WH34 AC Q8 DT 011 DT 011
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Q9DC13
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Best Local
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       J. Biol. Chem. 268:9014-9022(1993).

EMBL; LOSS6; AAF66141.1; JOINED.

EMBL; LO8576; AAF66141.1; JOINED.

EMBL; LO8577; AAF66141.1; JOINED.

EMBL; LO8578; AAF66141.1; JOINED.

EMBL; LO8579; AAF66141.1; JOINED.

EMBL; LO8580; AAF66141.1; JOINED.

EMBL; LO8580; AAF66141.1; JOINED.

EMBL; LO8580; AAF66141.1; JOINED.
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Onc K., Hank J.;

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Q8VH34;
01-MAR-2002
01-MAR-2002
01-OCT-2002
        Q9DC13 PRELIMINARY;
Q9DC13;
Q1-JUN-2001 (TremBLrel. 17,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDINE=9332065; PubMed=8517882; Sawada R., Jardine K.A., Fukuda M.; Sawada R., Jardine K.A., Fukuda M.; "The genes of major lysosomal membrane glycoproteins, lamp-1 and lamp-2.5'.flanking sequence of lamp-2 gene and comparison of exon organization in two genes [published erratum appears in J Biol Chem 1993 Jun 15;268(17):13010).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus
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NON TER 1 1 1

SEQUENCE 355 AA; 38358 MW
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AMP-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PR00336; LYSASSOCTDMP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity 6; Conserv
                                                                                                                                                                                                                                                                                                 GMNASSSLF
                                                                                                                                                                                                                                                                                                                                                                       GVNAXSSAF 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   s (Mouse).
Metazoa; Chordata; C
Metazoa; Rodentia; S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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66.7%;
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66.7%;
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Last sequence update)
Last annotation update)
                        Created)
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Pred. No. 1.3e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                    e 30; pp ___.
1. No. 1.5e+02;
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1.3e+02;
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6; Conserve
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RM MEDIKNE=21085660; PubMed=11217851;

RA MATCHENE JORGEGO, PubMed=11217851;

RA Arakawa T., Shinagawa A., Shibata K., Yosawa H., Adachi J., Fukuda S.,

RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,

RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,

RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

RA Kadota K., Matsuda H.A., Ashburner M., King B., Kochiwa H.,

RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

RA Schriml L.M., Staubii F., Suzuki R., Tomita M., Wagner L., Washio T.,

RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Bareh G.,

RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Bareh G.,

RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Bareh G.,

RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,

RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,

ROUSTING P., Marchionni L., Mashima J., Mazzarelli J., Kamiya M., Lee N.H.,

RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,

RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,

RA Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,

RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Wohtsuki S.,

RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Wohtsuki S.,

RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Wohtsuki S.,
Strausberg R.;
Strausberg R.;
Strausberg R.;
Submitted (JAN-2002) to the EMBI
EMBL; BC021288, AAH21288, 1;
InterPro; IPR022000; Lamp.
Pfam; PF01299; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP.
PROSITE; PS00330; LAMP_1; 2.
PROSITE; PS00311; LAMP_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q8WU33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-2002 (TrEMBLrel. 20, 01-MAR-2002 (TrEMBLrel. 20, 01-OCT-2002 (TrEMBLrel. 22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR002000; Lamp.
Pfam; PF01299; Lamp; 1.
PRINTS; PR00336; LYSASSOCTDMP.
PROSITE; PS00310; LAMP 1; 2.
PROSITE; PS00311; LAMP 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nature 409:685-690(2001).
EMBL; AK004637; BAB23428.1;
MGD; MGI:96745; Lamp1.
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STRAIN=C57BL/6J; T
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Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUN-2001 (TrEMBLrel. 17, Last 01-OCT-2002 (TrEMBLrel. 22, Last 01-OCT-2002) membrane glycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse)
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                                                                                                                                                                                                                                                                                                                                                                                                                                            CBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                          EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15
                                                                                                                                                                                                                                                                                                                 ISSUE=Pancreas;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          281
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PS00311; LAMP_2; 1.
407 AA; 43936 MW;
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Primates;
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66.7%;
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Last sequence update)
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Last annotation updat
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Pred. No. 1.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    696D0C79F627DA84 CRC64;
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417 B

> Length 407 Indels

0;

Gaps

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KW Hypothetical protein.

SQ SEQUENCE 417 AA; 44882 MW; 3E0A285744DD6588 CRC64;

Query Match
Best Local Similarity 66.7%; Pred. No. 1.5e+02;
Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GVNAXSSAF 9
Db 291 GMNASSSRF 299

Search completed: January 29, 2004, 14:56:51

Search completed: January 29, 2004, 14:56:51
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Result
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Perfect score:
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Searched:
    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
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    protein search, using
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length: 2000000000
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Gapop 10.0 , Gapext 0.5
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Match Length
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1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/backfIles1.pep:*
  GVNAXSSAF 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
US-09-339-511-7

US-09-339-511-1

US-09-339-511-1

US-08-861-476C-6

US-08-073-807A-17

US-08-073-807A-17

US-08-073-807A-26

US-09-311-784A-26

US-09-332-498-2

US-09-339-511-6

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US-09-663-600A-103

US-09-633-600A-103

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US-09-199-513-197A-89

US-09-198-761A-8

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US-09-198-761A-8

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Sequence 7, Appli
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Matches 9
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US-08-258-188-2	US-09-328-352-4627	US-09-521-780-6	21-780-	US-08-186-833-2	US-09-967-908A-6	US-09-967-908A-4	US-09-967-908A-10	US-09-967-908A-8	US-09-675-227-2	US-09-723-216-2	US-09-724-510-2	US-09-727-578-24	US-09-417-090-24	US-08-975-698A-24	US-08-750-145A-20	US-09-111-470-2	2-2CT007C
Sequence	Sequence	Sequence	Seguence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	במרפזור זיי.
2, App	4627, Ap	6, Appl	5, Appl	-	6, Appl	4, Appli	10, Appl	, Appl	, Appl	2, Appli	2, Appli	4		_	20, Appl	2, Appl	COUTO

ALIGNMENTS

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APPLICANT: Mull, Tom
APPLICANT: Mull, Tom
APPLICANT: Mo: 6337385ick, Richard P.
APPLICANT: No. 633738ick, Richard P.
APPLICANT: No. 633738ick, Richard P.
APPLICANT: No. 600-1-231N
CURRENT APPLICATION NOWBER: US/09/339,511
CURRENT APPLICATION NOWBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
PRIOR APPLICATION NOWBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 7
LENGTH: 9
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE: OTHER INFORMATION: Description of Artificial Sequence: Synthetic NAME/KEY: VARIANT
COCKTION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position.
US-09-339-511-7
Sequence 1, Application U.
Patent No. 6337385;
GENERAL INFORMATION:
APPLICANT: Muir, Tom
APPLICANT: Mayville, Pat
APPLICANT: No. 6337385i
APPLICANT: Seavis, Rona.
APPLICANT: Ji, Guangyon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 7, Application US/09339511; Patent No. 6337385; GENERAL INFORMATION:
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  Muir, Tom
Mayville, Patricia
No. 6337385ick, Ricl
Beavis, Ronald
Ji, Guangyong
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100.0%; Pred. No. 2.
tive 0; Mismatches
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; LOCATION: (5)
; OTHER INFORMATION: Xaa represents any amino acid at US-09-339-511-1
                                                                                                                                                                                                                                  US-08-861-476C-6
                                                                                                                                                                                                                                                   RESULT 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILE REFERENCE: 63753/7
CURRENT APPLICATION NUMBER: US/08/861,476C
CURRENT FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn version 3.0
SEQ ID NO 3
                                                                                                                GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN
FILE REFERENCE: 63753/7
FILE REFERENCE: 63753/7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS
                                                                                                                                                                                               Sequence 6, Application US/08861476C Patent No. 6447786
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Best Local
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Patent No. 6447786
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CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
                                                                                              CURRENT APPLICATION NUMBER: US/08/861,476C CURRENT FILING DATE: 1997-05-22
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                                                                                NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 9
TYPE: PRT
ORGANISM: Staphylococcus aureus
                                                 SOFTWARE: PatentIn version 3.0 SQ ID NO 6
ORGANISM: Staphylococcus aureus
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iBR INFORMATION: peptide
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77.8%;
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Pred. No.
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2.5e+05;
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INFORMATION FOR SEQ I
SEQUENCE CHARACTERI
LENGTH: 353 amin
                                                                                                              Patent No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Release #1.0, VeCURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/073,807A
FILING DATE: 08-7UN-1993
CLASSIFICATION: 435
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                             LENGTH: 353 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: San Diego
STATE: California
COUNTRY: United States
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER: 31,
                                                                                                                                                                                                                                                                                                                                                                                                                                      ECOMMUNICATION INFORMATION:
                            LE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LICANT: Fukuda, Minoru
LE OF INVENTION: CELL S
LE OF INVENTION: SELECT
SER OF SEQUENCES: 18
                                                                                                                                                                                                    263
                                                                                                                18, Application US/08073807A
b. 5646248
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4370 La Jolla Village Drive, Suite 700
                                                   Sawada, Ritsuko
Lowe, John B.
Fukuda, Minoru
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SEQ ID NO: 1
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                        CELL SURFACE LAMP EXPRESSION AND SELECTIN-DEPENDENT ADHESION
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Pred. No. 49;
1; Mismatches
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Pred. No. 2.7;
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US-08-073-807A-2
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Best Local Similarity 66.7%;
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TELEFAX: (619) 535-8949 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PATENTIN Release #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION NUMBER: U$/08/073,807A FILING DATE: 08-JUN-1993 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
COPPHANDE. PC-DOS/MS-DOS
                                                                                                                       FILING DATE: 08-JUN-1993
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: P-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 535-9001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                   TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                        MBER OF SEQUENCES:
                                                                     NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31,815
REFERENCE/DOCKET NUMBER: P-LJ 9567
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                                                                                                                                          LICATION NUMBER: US/08/073,807A
ING DATE: 08-JUN-1993
SSIFICATION: 435
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                                                                                                                                                                                                                                                                                                                                                                                  E: Campbell and Flores
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                                    (619)
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SELECTIN-DEPENDENT
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Pred. No. 53;
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LENGTH: 614
TYPE: PRT
GORGANISM: Geniculosporium sp.
US-09-832-498-2
                                                                                                                                                                                                                                                         US-09-832-498-2
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Best Local Similarity 60...
""" hes 6; Conservative
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 26
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                                                                SEQ ID NO 2
                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                       Sequence 2, Application US/09832498 Patent No. 6410291
                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                            CURRENT APPLICATION NUMBER: CURRENT FILING DATE: 2001-0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: Expression Vectors for Stimulating an TITLE OF INVENTION: Immune Response and Methods of Using the Same FILE REFERENCE: 39963-20022.01
                                                                             NUMBER OF SEQ ID NOS:
SOFTWARE: PatentIn ve
                                                                                                                                          APPLICANT: Schneider, Palle
TITLE OF INVENTION: Polypeptides having haloperoxidase activity
FILE REFERENCE: 10040.200-US
                                                                                                                                                                           APPLICANT: Danielsen, Steffen APPLICANT: Schneider, Palle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT ORGANISM: Homo sapiens FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 66.
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Epimmune Inc.
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Sette, Alessandro
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                                                                               version 3.0
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                                                                                                              2001-04-11
                                                                                                                               US/09/832,498
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Pred. No.
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Pred. No. 59;
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Query Match
Best Local Similarity
Thes 6; Conserve
                                                                             ; OTHER INFORMATION: Xaa represents any US-09-339-511-5
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US-09-832-614A-2
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SEQ ID NO 2
LENGTH: 614
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Best Local S
Matches
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SEQ ID NO 5
LENGTH: 9
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Patent No. 6337385
GENERAL INFORMATION:
       Query Match
Best Local Similarity
Matches 7; Conserv
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APPLICANT: No. 64102920zymes A/S
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CURRENT FILING DATE: 2001-04-11
NUMBER OF SEQ ID NOS: 2
                                                                                                                                                                                                                                                                                                             FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
PRIOR FILING DATE: 1998-06-24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: Nucleic acids encoding polypeptides having haloperoxidase activi-
FILE REFERENCE: 10173.200-US
                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS:
                                                                                                               OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
                                                                                                                                                                                                     ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                 PHICANT: Ji, Guangyong
ITLE OF INVENTION: NOVEL STAPHYI
ITLE OF INVENTION: INTERFENCE
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                                                                                                                                                                                                                                                                               PatentIn Ver. 2.0
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Mayville, Patricia
No. 6337385ick, Richard
Beavis, Ronald
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Schneider, Palle
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Pred. No. 94;
2; Mismatches
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             1; Mismatches
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Pred. No. 2.5e+05;
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Pred. No. 94;
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OTHER INFORMATION: Xaa represents any amino acid at this position US-09-339-511-6
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                                                                                                                 CURRENT FILING DATE: US/09/663,600A
CURRENT FILING DATE: 2000-09-15
PRIOR APPLICATION NUMBER: 09/191,997
PRIOR FILING DATE: 1998-11-13
PRIOR APPLICATION NUMBER: 60/066,677
PRIOR FILING DATE: 1997-11-13
PRIOR APPLICATION NUMBER: 60/069,957
PRIOR APPLICATION NUMBER: 60/069,957
PRIOR FILING DATE: 1997-12-17
PRIOR PILING DATE: 1997-12-17
PRIOR APPLICATION NUMBER: 60/074,121
PRIOR APPLICATION NUMBER: 60/081,563
PRIOR APPLICATION NUMBER: 60/081,563
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; LENGTH: 9
; TYPE: PRT
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Best Local S
                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Dumas Milne Edwards, Jean-Baptiste
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 103, Application US/09663600A Patent No. 6573068
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APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1998-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS:
SOFTWARE: Patentin Ve
                                PRIOR APPLICATION NUMBER: 60/096,116
PRIOR FILING DATE: 1998-08-10
PRIOR APPLICATION NUMBER: 60/099,273
PRIOR FILING DATE: 1998-09-04
NUMBER OF SEQ ID NOS:
SOFTWARE: Patent.pm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                    PPLICANT: Bougueleret, Lydie
                                                                                                        FILING DATE: 1998-04-13
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o. 6337385
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Mayville, Patric
No. 6337385ick,
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SEQ ID NO 103 LENGTH: 273

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; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: SIGNAL
; LOCATION: -45..-1
US-09-663-600A-197
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US-09-339-511-2
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CURRENT FILING DATE: 2000-09-15
PRIOR APPLICATION NUMBER: 09/191,997
PRIOR FILING DATE: 1998-11-13
PRIOR APPLICATION NUMBER: 60/066,677
PRIOR TILING DATE: 1997-11-13
PRIOR APPLICATION NUMBER: 60/069,957
PRIOR APPLICATION NUMBER: 60/069,957
PRIOR APPLICATION NUMBER: 60/074,121
PRIOR APPLICATION NUMBER: 60/074,121
PRIOR FILING DATE: 1998-02-09
PRIOR FILING DATE: 1998-02-09
Sequence 2, Application US/09339511
Patent No. 6337385
GENERAL INFORMATION:
APPLICANT: Muir, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 229
SOFTWARE: Patent.pm
SEQ ID NO 197
LENGTH: 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 74.4%;
Best Local Similarity 66.7%;
Matches 6; Conservative
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Best Local Similarity 66.7%;
Matches 6; Conservative
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APPLICANT: Bouguelert, Lydie
TITLE OF INVENTION: EXTENDED CDNAS FOR SECRETED PROTEINS
FILE REFERENCE: 31.US3.CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: 60/081,563
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NAME/KEY: SIGNAL
LOCATION: -45..-1
NAME/KEY: UNSURE
LOCATION: 181,187,193,196,198,199,203,212,214
OTHER INFORMATION: Xaa = any one of the twenty amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 1998-08-10
APPLICATION NUMBER: 60/099,273
FILING DATE: 1998-09-04
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Pred. No. 61;
1; Mismatches

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Perfect score:
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1: /cgn2_6/ptodata/1/pubpaa
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Listing first 45 summaries
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Copyright (c) 1993 - 2004 Compugen Ltd.
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/ Cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*
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6/prodata/1/pubpaa/US06_NEW PUB.pep:*
6/prodata/1/pubpaa/US06_PUBCOMB.pep:*
6/prodata/1/pubpaa/US07_NEW_PUB.pep:*
                                              6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
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           US-10-032-950-7
US-10-032-950-1
US-10-201-444-6
US-10-201-444-6
US-10-080-170-155
US-10-080-170-538
US-10-371-669-26
US-10-371-669-26
US-10-371-669-26
US-10-371-675-26
US-10-371-63-26
US-10-371-63-26
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US-10-371-63-26
US-10-319-763-103
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equence 72	equence 19925,	ce 303,	quence 303,	Sequence 464,	Ce 464	equence 2	equence 4	equence 4	quence 2	equence 6	equence 8	equence 1	equence 1	quence 38	equence 1	Н	equence 2	N	quence 2	equence 1	ence 89,	quence 43395,	equence 2, Ap	e 4, Ar	equence 2, Ap	equence 4775,	equence 1250,	Sequence 344, App	5, 2

ALIGNMENTS

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Query Match
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Matches 9
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR RILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SECTION OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
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APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453Alick, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position of the Information in the control of the control of
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ORGANISM: Artificial Sequence
FEATURE:
1 GVNAXSSAF 9
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9; Conserv
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                                                                                                       ; ORGANISM: Staphylococcus aureus
US-10-201-444-3
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Best Local
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Publication No. US20030078378A1
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PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Xaa represents any amino acid at this position
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No. US20020077453Alick, Richard
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Pred. No. 7e+05;
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Pred. No. 7e+05;
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RESULT 4 US-10-201-444-6

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CURRENT FILING DATE: 2002-07-23
PRIOR APPLICATION NUMBER: US/08/861,476
PRIOR FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.0
SEQ ID NO 6
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APPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S. AUREUS
FILE REFERENCE: 63753/7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 155
LENGTH: 163
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                                                                                                                                                                                                             Sequence 538, Application US/10080170 Publication No. US20030129601A1 GENERAL INFORMATION:
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Publication No. US20030078378A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: COMPARATIVE MYCOBACTERIAL GENOMICS AS A TOOL FOR TITLE OF INVENTION: IDENTIFYING TARGETS FOR THE DIAGNOSIS, PROPHYLAXIS OR TITLE OF INVENTION: TREATMENT OF MYCOBACTERIOSES

FILE REFERENCE: 03495.0218

CURRENT APPLICATION NUMBER: US/10/080,170

CURRENT FILING DATE: 2002-05-10

PRIOR APPLICATION NUMBER: 60/270,123

PRIOR FILING DATE: 2001-02-22

NUMBER OF SEQ ID NOS: 652
TITLE OF INVENTION: COMPARATIVE MYCOBACTERIAL GENOMICS AS A TOOL FOR TITLE OF INVENTION: IDENTIFYING TARGETS FOR THE DIAGNOSIS, PROPHYLAY TITLE OF INVENTION: TREATMENT OF MYCOBACTERIOSES FILE REFERENCE: 03495,0218
CURRENT APPLICATION NUMBER: US/10/080,170
CURRENT FILING DATE: 2002-06-10
PRIOR APPLICATION NUMBER: 60/270,123
PRIOR PELICATION NUMBER: 60/270,123
PRIOR PELICATION NUMBER: 60/270,123
PRIOR FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
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Pred. No. 6.
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                                                                                                                                                                                                                                                  US-10-371-645-26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: US 09/078,904
PRIOR FILING DATE: 1998-05-13
PRIOR APPLICATION NUMBER: US 60/085,751
PRIOR FILING DATE: 1998-05-15
NUMBER OF SEQ ID NOS: 463
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 26
LENGTH: 416
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Best Local Similarity
Matches 6; Conserv
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SEQ ID NO 538
LENGTH: 167
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APPLICANT: Epinmune Inc.
TITLE OF INVENTION: Expression Vectors for Stimulating an
TITLE OF INVENTION: Immune Response and Methods of Using the Same
FILE REFERENCE: 39963-20022.10
CURRENT APPLICATION NUMBER: US/10/371,069
CURRENT FILING DATE: 2003-02-21
                                                                                                                                                             APPLICANT: EPIMMUNE Inc. APPLICANT: Fikes, John
                                                                                                                             APPLICANT:
                         TITLE
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TYPE: PRT
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ICANT: Livingston, Brian
ICANT: Chesnut, Robert W.
ICANT: Epimmune Inc.
OF INVENTION: Expression Vectors for Stimulating an
OF INVENTION: Immune Response and Methods of Using the Same
REFERENCE: 39963-20022.11
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                                                                                                                          Fikes, John D.
Hermanson, Gary G.
Sette, Alessandro
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Ishioka, Glenn Y.
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                                                                                                             Ishioka, Glenn Y.
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Pred. No. 47;
0; Mismatches
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Pred. No. 1.3e+02;
1; Mismatches 2
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RESULT 10 US-10-151-557-2

Sequence 2, Application US/1015157
Publication No. US20020183506A1
GENERAL INFORMATION:
APPLICANT: No. US20020183506A1ozymes
APPLICANT: Danielsen, Steffen

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APPLICANT: ISHICKS, Glenn Y.
APPLICANT: Livingscon, Brian
APPLICANT: Chesnut, Robert W.
APPLICANT: Chesnut, Robert W.
APPLICANT: Epinmune Inc.
ITITLE OF INVENTION: Expression Vectors for Stimulating an ITITLE OF INVENTION: Immune Response and Methods of Using the FILE REFERENCE: 39963-2022.13
CURRENT APPLICATION NUMBER: US/10/371,260
CURRENT FILING DATE: 2003-02-21
PRIOR APPLICATION NUMBER: US 09/076,904
PRIOR APPLICATION NUMBER: US 60/085,751
PRIOR APPLICATION NUMBER: US 60/085,751
PRIOR FILING DATE: 1998-05-15
NUMBER OF SEQ ID NOS: 463
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 26
LENGTH: 416
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CURRENT FILING DATE: 2003-06-20
PRIOR APPLICATION NUMBER: US 09/078,904
PRIOR FILING DATE: 1998-05-13
PRIOR PLICATION NUMBER: US 60/085,751
PRIOR FILING DATE: 1998-05-15
NUMBER OF SEQ ID NOS: 463
SOFTWARE: FRETENG TO WINDOWS Version 3.0
SEQ ID NO 26
LENGTH: 416
TYPE: PRI
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Best Local a
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TYPE: PRT
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290 GMNASSSRF 298
                                                                       1 GVNAXSSAF 9
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                                                                                                                                              Similarity 66. 6; Conservative
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                                                                                                                                                                                        Score 30;
Pred. No.
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                                                                                                                 RESULT 12
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US-10-151-557-2
                                                                                                 US-10-032-950-6
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SEQ ID NO 2
LENGTH: 614
                                               GENERAL INFORMATION
                                                              Sequence 6, Application US/10032950 Publication No. US20020077453A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF TILING DATE: 1998-06-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/10/151,55
CURRENT FILING DATE: 2002-05-18
PRIOR APPLICATION NUMBER: US/09/832,614A
PRIOR FILING DATE: 2001-04-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Muir, Tom APPLICANT: Mayville
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
                                                                                                                                                                                                                                                                                                 LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position
                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide
                                                                                                                                                                                                                                                                                                                                               NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PatentIn version 3.1
                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PatentIn Ver. 2.0
                                                                                                                                                                   GVNAXASLF
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No. US20020077453Alick, Richard P.
Mayville, Patricia
No. US20020077453Alick, Richard P.
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                                                                                                                                                                                                                                                 74.48;
77.88;
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                                                                                                                                                                                                                                                 Score 29;
Pred. No. 7
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                 7e+05;
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                                                                                                                                                                                                                                                                   DB 13; Length 9;
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; LOCATION: 181,187,193,196,198,199,203,212,214 ; OTHER INFORMATION: Xaa = any one of the twenty US-10-319-763-103
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APPLICANT: Dumas Milne Edwards, Jean-Baptiste
APPLICANT: Duclert, Aymeric
                                                                                                                                                                                                                                                                                 SOFTWARE: Patent.pm
SEQ ID NO 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 103, P. Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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Best Local
  Best Local Similarity
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TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
CURRENT FILING DATE: 2001-12-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: 60/050,402
PRIOR FILING DATE: 198-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/066,677
PRIOR FILLING DATE: 1997-11-13
PRIOR APPLICATION NUMBER: 60/069,957
PRIOR FILLING DATE: 1997-12-17
PRIOR APPLICATION NUMBER: 60/074,121
PRIOR FILLING DATE: 1998-02-09
PRIOR FILLING DATE: 1998-02-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/319,763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 229
                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/099,273
PRIOR FILING DATE: 1998-09-04
                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: 60/081,563
PRIOR FILING DATE: 1998-04-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Xaa represents any amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
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                                                                                                                                                                              NAME/KEY: SIGNAL
                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                    NAME/KEY: UNSURE
                                                                                                                                           FEATURE
                                                                                                                                                          LOCATION: -45..-1
                                                                                                                                                                                                     FEATURE:
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TLE OF INVENTION: EXTENDED CI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LE REFERENCE: G-031.US04.DIV
                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/096,116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
7; Conserva
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  74.4%;
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Score 29; DB 12;
Pred. No. 1.4e+02;
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Pred. No. 7e+05;
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                                                                                 amino acids
                   Length 273;
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; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: SIGNAL
; LOCATION: -45..-1
US-10-319-763-197
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Best Local Similarity
Thes 6; Conserv
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CURRENT APPLICATION NUMBER: US/10/319,763
CURRENT FILING DATE: 2002-12-10
PRIOR APPLICATION NUMBER: 60/066,677
PRIOR FILING DATE: 1997-11-13
PRIOR PELICATION NUMBER: 60/069,957
PRIOR FILING DATE: 1997-12-17
PRIOR PELICATION NUMBER: 60/074,121
PRIOR APPLICATION NUMBER: 60/074,121
PRIOR FILING DATE: 1998-02-09
PRIOR PELICATION NUMBER: 60/081,563
PRIOR APPLICATION NUMBER: 60/096,116
PRIOR APPLICATION NUMBER: 60/096,116
PRIOR APPLICATION NUMBER: 60/096,116
PRIOR APPLICATION NUMBER: 60/096,273
PRIOR APPLICATION NUMBER: 60/099,273
PRIOR APPLICATION NUMBER: 60/099,273
PRIOR APPLICATION NUMBER: 60/099,273
PRIOR FILING DATE: 1998-08-10
PRIOR APPLICATION NUMBER: 60/099,273
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; Sequence 197, A
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SEQ ID NO 197
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                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Dumas Milne Edwards, Jean-Baptiste
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PPLICANT: Duclert, Aymeric
PPLICANT: Bougueleret, Lydie
TILE OF INVENTION: EXTENDED CONAS FOR SECRETED PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGTH:
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Patturajan, Meera
Taupier Jr, Raymond J
Burgess, Catherine E
Zerhusen, Bryan D
                                                                                                                                                                                                                                 MacDougall, John R
Malyankar, Muriel M
Smithson, Glennda
                                                                                                                                                                                                                                                                                                                                                  Application US/09981151A
10. US20030212256A1
                                                                                                                                                                          Millet, Isabelle
Peyman, John A
Stone, David J
                                                                           Ellerman, Karen
Shimkets, Richard A
Padigaru, Muralidhara
Guo, Xiaojia
                                                                                                                                                         Gunther, Erik
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                                                                                                                                                                                                                                                                                             Valerie
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APPLICANT: GOYMAN,
TITLE OF INVENTION: Proteins
FILE REFERENCE: 21402-168
CURRENT APPLICATION NUMBER: US/09/981,151A
CURRENT FILING DATE: 2001-10-16
PRIOR APPLICATION NUMBER: 60/241,040
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/241,058
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/241,063
PRIOR FILING DATE: 2000-10-17
PRIOR APPLICATION NUMBER: 60/241,243
PRIOR APPLICATION NUMBER: 60/241,243
PRIOR PILING DATE: 2000-10-17
PRIOR PILING DATE: 2000-10-17
PRIOR PILING DATE: 2000-10-17
PRIOR PILING DATE: 2000-10-17
PRIOR PILING DATE: 2000-10-20
PRIOR PILING DATE: 2000-10-20
PRIOR PILING DATE: 2000-10-20
PRIOR APPLICATION NUMBER: 60/242,482
PRIOR APPLICATION NUMBER: 60/242,482
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                                                                                                                                                                               ; ORGANISM: Homo sapiens US-09-981-151A-64
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                                                                                                                                                                                                                                             SEQ ID NO 64
LENGTH: 27
                                                                                           Matches
                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                           Remaining Prior Application NUMBER OF SEQ ID NOS: 1: SOFTWARE: PatentIn Ver.
                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/242,880
PRIOR FILING DATE: 2000-10-24
PRIOR APPLICATION NUMBER: 60/242,881
PRIOR FILING DATE: 2000-10-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RIOR APPLICATION NUMBER: 60/242,612
                                                                                                              Local
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12 GVNKYSTAF 20
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INVENTION: Proteins and Nucleic Acids Encoding Same
SRENCE: 21402-168
                                             1 GVNAXSSAF 9
                                                                                                                                                                                                                                                    273
                                                                                        Similarity 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fernandes,
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                                                                                      74.4%; ilarity 66.7%; Conservative
                                                                                                                                                                                                                                                                                                                                        Application data removed - See File Wrapper or PALM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000-10-23
                                                                                                                                                                                                                                                                                                  2.1
                                                                                        Score 29; DB 12; Length 273; Pred. No. 1.4e+02; 1; Mismatches 2; Indels
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Search completed: January 29, 2004, 15:01:46
Job time : 25.5441 secs

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Title:
Perfect score:
Sequence:
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                                                                                                                                                  Score
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2: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*

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5: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*

5: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*

6: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*

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11: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1999.DAT:*

12: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1992.DAT:*

13: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

14: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1995.DAT:*

15: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1995.DAT:*

16: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1995.DAT:*

17: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1995.DAT:*

18: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1999.DAT:*

19: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1999.DAT:*

20: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1999.DAT:*

21: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1999.DAT:*

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24: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*

24: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length: 0
length: 2000000000
                                                                                                                                                Query
Match
                                                                                                                                                                                                                      is the number of results predicted by chance to have a ater than or equal to the score of the result being printed, rived by analysis of the total score distribution.
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Gapop 10.0 ,
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19
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Maximum Match 100%
Listing first 45 s
 GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd
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                                                                                       AAY16582
AAY67858
ABP53547
                                          AAM10519
AAW10783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              summaries
               AAW25549
AAW25550
   AAW25555
                                                                                                                                                                                             SUMMARIES
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AgrD-autoinducing
Fusinus inhibitory
Ferritin motif #26
Synthetic ferritin
Synthetic ferritin
Synthetic ferritin
                                                                                                                                                  Description
                                                                                    Antibacterial cycl S. aureus peptide Cyclic peptide SEQ
 RESULT 1
AAY16A82
ID AAY1
XX AAY1
XX AAY1
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DE Anti
DE Anti
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XX PR 24-N
XX 24-N
PR 24-N
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Misc-difference
                                                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                         AAY16582;
                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY16582 standard; peptide;
   26-NOV-1997;
                              24-NOV-1998;
                                                            03-JUN-1999
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                                                                                         WO9926968-A1
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ALIGNMENTS

4 AA.

Cyclic peptide; modulator; agr response; virulence; cell wall protein production; prophylaxis; exotoxin secretion; bacterial infection; toxic shock syndrome; Staphylococci; staphylococcus aureus; coagulase-negative S. epidermidis; medical implant infection; cyclic. Antibacterial cyclic oligopeptide for Staphylococcus strains. (first entry) 97GB-0024859 98WO-GB03497 Location/Qualifiers

1..4
/note= "linked by -C-CH(NHX)-(CH2)n-S, where X is comprises 2-5 amino acids, and is not Gly-Val-Asn-Ala (claim 1) or is Gly-Val-Asn-Ala (claim 8)"

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Best Local S
Matches 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Affas ZM,
Williams
                                                                                                                                                                                                                                   Staphylococcus
                                                                                                                                                                                                                                                                  Staphylococcus aureus infection; cyclic peptide; AgrD;
                                                                                                                                                                                                                                                                                        S. aureus peptide #8 used for bacterial interference
                                                                                                                                                                                                                                                                                                                                    AAY67858
                                                                                                                                                                                                                                                                                                                                                        AAY67858 standard; peptide; 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note: this sequence does not appear in the specification, it was created using information provided.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; Page -; 32pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cyclic antibacterial peptides
  WPI;
                      Muir TW,
                                           (UYRQ )
                                                                                               24-JUN-1999;
                                                                                                                                              WO9967286-A2
                                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                                                                        virulence
                                                                                                                                                                                                                                                                                                               25-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           coagulase-negative S. epidermidis, implicated in infection of medical
                                                                             24-JUN-1998;
                                                                                                                       29-DEC-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UYNO-) UNIV NOTTINGHAM
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   2000-147202/13
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                     Mayville P,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                           ROCKEFELLER.
NEW YORK STATE.
                                                                                                                                                                                                                                                                                                              (first entry)
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                                                                                                                                                                                                                                   aureus
                                                                             98US-0103438
                                                                                                 99WO-US14562
                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                      /label= Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                      94.7%; Sur
100.0%; Prr
                      Novick RP,
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                                                                                                                                                                  "N-terminal residue is linked to the residue to form a cyclic peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                         s; Pred. No. 9.3
0; Mismatches
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                      Beavis
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                                                                                                                                                                                                                                                                  agr response;
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Best Local !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This sequence represents a cyclic peptide derived from the Staphylococcus aureus AgrD peptide. The invention relates to AgrD derived peptides, a composition containing a peptide and a carrier and a method for the production of the cyclic peptides. The peptide inhibits the agr response, which is normally associated with the release of virulence factors of Staphylococcus aureus. An AgrD peptide is produced by S. aureus that activates the agr response in strains of a single group, but interferes with this response in strains of different groups. The peptides and composition containing them can be used to treat infections by S. aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim
                                                                                                                                                                                                                                                                                                                                         Cyclic peptide; agr response in
                                                                                                                                                                                                                                                                                                                                                                        Cyclic
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                                                                                                                                                                                                                                                                                                                                                                                                               ABP53547;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New cyclic
ABP53540 to ABP53547 represent cyclic peptides (I) from the present invention. The present invention also describes a method for treati Staphylococcus aureus infection comprising the administration of a
                                                                     New
                                                                                        WPI; 2002-681366/73
                                                                                                           Muir TW,
                                                                                                                                        (MUIR/)
(MAYV/)
(NOVI/)
(BEAV/)
                                                                                                                                                                                        24-JUN-1998;
24-JUN-1999;
                                                                                                                                                                                                                      27-DEC-2001;
                                                                                                                                                                                                                                           20-JUN-2002.
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                                                                                                                                                                                                                                                                                          Misc-difference
                                                                                                                                                                                                                                                                                                                       Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                   ABP53547 standard;
                                                             cyclic peptides,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9; Page
                                                                                                                              MUIR T W.
MAYVILLE
NOVICK R
BEAVIS R.
JI G.
                                                                                                                                                                                                                                                                                                                                                                       peptide
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                                                                                                                                                                                                                      2001US-0032950
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                                                                                                                                                                                                                                                                                                                                            inhibitor
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                                       10;
                                                                                                                                                                                                                                                                                                                                                                        SEQ
                                                                                                                                                                                        98US-090402P
99US-0339511
                                                                                                                                                                                                                                                                                                                                                   Staphylococcus aureus;
                                                                                                                                                                                                                                                                                                  Location/Qualifiers
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                                                                                                                                                                                                                                                                                 /note=
                                      18pp;
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                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide; 5
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100.0%; Pr
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                                                                     useful
                                                                                                                                                                                                                                                                                 "any
                                                                                                           Novick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   treating infections
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                                      English
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%; Pred. No. 9.3
0; Mismatches
                                                                     for
                                                                                                                                                                                                                                                                                 amino acid"
                                                                                                           RP,
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                                                                    treating
                                                                                                          Beavis
                                                                                                                                                                                                                                                                                                                                                      infection;
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9.3e+05;
                                                                     Staphylococcus
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treating n.of.a

comprising (I). (

(I) has antibacterial activity, and inhibitor. The peptides are useful

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RESULT 4
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ID AAMS
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Matches
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The present sequence is that of a novel synthetic cyclic peptide of the invention that is capable of inhibiting the agr response of Staphylococcus aureus. It is an AgrD-autoinducing peptide, where AgrD is a secreted agr-encoded peptide and where the agr locus controls the synthesis of virulence factor and other extracellular proteins responsible for pathogenicity in S. aureus. Preferred peptides may have the sequence NH2-X(n)-Z-X(y)-COOH, with a cyclic bond between the Z residue and COOH other than a thioester bond, where X is an amino acid, an amino acid analogue, a peptidomimetic or non-amide isostere, Z is a synthetic or a biosynthetic amino acid, n is 0-10 and y is 1-10. The cyclic bond is especially a lactam or lactone bond. The thiololactone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Staphylococcus antibacterial;
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                                                                                                                                                                                                                                                                         Claim 7;
                                                                                                                                                                                                                                                                                                                                  Novel synthetic, interference and
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Muir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (UYRQ )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-JUN-1998;
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                                                                                                                                                                                                                                                                                                                  subject
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4; Conser
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                                                                                                                                                                                                                                                                      Column 19; 18pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                         Mayville P,
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/note=
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note=
                                                                                                                                                                                                                                                                                                                                  cyclic AgrD-autoinducing peptide for bacterial for treating Staphylococcus aureus infection in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cyclic peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Peptide; 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94.7%; 5cc
100.0%; Pr
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Novick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "note linked to peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "note linked to residue peptide"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amino acid"
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Pred. No.
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                                                                                                                                                                   The peptide was isolated from Fusinus perplex ferrugineus neuroganglia and inhibits muscular contraction, especially of the radular tractile muscle in F. perplex ferrugineus, Prosobranchia and other Mollusca. Alternatively, it can be synthesised by solidaphase techniques. One or both of the Ser residues at positions 1 or 2 may be absent. The peptide can be used in biological studies for the development of drugs. See also AAR10516-R10518 and AAR10520.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Muscular contraction-inhibitory neuro-peptide(s) in mollusca prepd. by purifying oligopeptide using high power liq. chromatography after extracting neuro-ganglion of Fusinus per
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100.0%; Pr
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9.3e+05;
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9.3e+05;
thes 0;
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AAW10783 standard; peptide; 6 AA.

25-MAR-2003 10-NOV-1997 (updated) (first entry)

Ferritin motif #26 important for selective binding affinity

Functional surrogate; analyte; affinity receptor; immunoreactive group; mimic; homogenous immunoassay; detection; diagnostic analyte; Chlamydia; cardiac marker; tumour marker; allergen; hormone; fertility; myoglobin; pregnancy; infectious disease; ferritin; myosin light chain; troponin; follicle stimulating hormone; human; growth hormone; immunoglobulin E; prolactin; parathyroid hormone; placental lactogen; hepatitis antigen; antibody; chorionic gonadotropin; luteinising hormone; cytomegalovirus; Streptococcus; rubella; toxoplasma; DK-MB; prostate-specific antigen; carcinoembryonic antigen; alpha-fetoprotein; herpes virus; CA125.

Synthetic.

WO9641172-A1

19-DEC-1996

07-JUN-1996; 96WO-US10498

07-JUN-1995; 95US-0476375

(CYTO-) CYTOGEN CORP

F۷,

Labelled functional surrogate of an analyte - useful as competitor molecule in affinity assays, esp. for detecting large macromolecules such as ferritin

Claim 51; Page 56; 156pp; English

PRESULT 6
ADMIN 783
ADMIN CThis sequence represents a peptide motif derived from ferritin which is comportant for selective binding affinity. Peptides containing motifs consuch as this may be used as functional surrogates in the conjugate of the invention. The novel labelled conjugate comprises at least one can label attached to a functional surrogate of an analyte of interest. The surrogate is capable of competing effectively with the analyte conjugate exhibits an activity that is altered upon interaction with the amount of the analyte present in a sample. Functional surrogate is conjugate exhibits an activity that is altered upon interaction with the analyte present in a sample. Functional surrogate to compete effectively and with the analyte for a limiting amount of its conjugate and with the analyte for a limiting amount of its cocurring analytes. They can be labelled for use in standard competitive macromolecules such as polypeptides, polypactarides, polypuctening analytes. They can be labelled for use in standard competitive can present in force analytes as sociated with infectious disease. In particular, the assays care useful for detecting ferritin, follicle stimulating hormone, human conjucted with infectious disease. In particular, them, human conjucted in parathycoid hormone, human luteinising hormone, human probaction, Streptococcus a, rubella, toxoplasma, herpes virus, DK-ME, competition, dated to the analytes.

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PRESULT 7
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Matches
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100.0%; Pr
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Pred. No.
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9.3e+05;
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Lee-owen (CYTO-) CYTOGEN CORP F۷ Carter 9508-0476375

Labelled functional surrogate of an analyte - useful as competitor molecule in affinity assays, esp. for detecting large macromolecules such as ferritin

Claim 51; 26; 156pp; English

This sequence represents a synthetic ferritin peptide which was used as functional surrogate in the conjugate of the invention. The novel considered to a functional surrogate in the conjugate of the invention. The novel can be abled conjugate comprises at least one label attached to a functional surrogate of an analyte of interest. The surrogate is capable of competing effectively with the analyte for a limiting amount of an cativity receptor for the analyte. The conjugate exhibits an activity that is altered upon interaction with the affinity receptor and this cativity can be measured and related to the amount of the analyte present in a sample. Functional surrogates such as this have an immunoreactive group that allows the surrogate to compete effectively and with the cannot that of a sample. Functional compete for a limiting amount of its affinity receptor. Functional configurates are able to mimic naturally occurring analytes. They can be labelled for use in standard competitive affinity assays (esp. conogenous immunoassays) for detecting large macromolecules such as polymeptides, polymerides, glycoproteins and compatitions acromolecules. Such as well as amail hantens Turvical polypeptides, polysaccharides, p lipid-containing macromolecules, as well as small

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RESULT 8
AAW25550
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Matches 4
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   This sequence represents a synthetic ferritin peptide which was used as a functional surrogate in the conjugate of the invention. The novel labelled conjugate comprises at least one label attached to a functional
                                                                                                                                   Claim 51;
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100.0%; Pred. No. 9.
tive 0; Mismatches
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ng large macromolecules
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WPI; 1997-077284/07 Lee-owen FV,

Carter JM;

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RESULT 9
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Best Local Similarity
                                                                                                                                                                                                   Functional surrogate; analyte; affinity receptor; immunoreactive group; mimic; homogenous immunoassay; detection; diagnostic analyte; Chlamydia; cardiac marker; tumour marker; allergen; hormone; fertility; myoglobin; pregnancy; infectious disease; ferritin; myosin light chain; troponin; follicle stimulating hormone; human; growth hormone; immunoglobulin E; prolactin; parathyroid hormone; placental lactogen; hepatitis antigen; antibody; chorionic gonadotroplin; luteinising hormone; cytomegalovirus; streptcococus; rubella; toxoplasma; DK-MB; prostate-specific antigen; carcinoembryonic antigen; alpha-fetoprotein; herpes virus; CA125.
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                      07-JUN-1996;
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Pred. No. 9.3e+05;
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CY This sequence represents a peptide motif derived from ferritin which is comportant for selective binding affinity. Peptides containing motifs consuch as this may be used as functional surrogates in the conjugate of the invention. The novel labelled conjugate comprises at least one companies at least one companies. The conjugate of an analyte of interest. The surrogate is capable of competing effectively with the analyte conjugate exhibits an activity that is altered upon interaction with the affinity receptor and this activity can be measured and related to the affinity receptor and this activity can be measured and related to compute effectively and with the analyte for a limiting amount of its compete effectively and with the analyte for a limiting amount of its compete effectively and with the analyte for a limiting amount of its compete effectively and with the analyte for a limiting amount of its compete effectively and with the analyte for a limiting amount of its compete effectively and with the analyte for use in standard competitive competical surrogates are able to mimic naturally occurring analytes (esp. homogenous immunoassays) for detecting large comproperciens and lipid-containing macromolecules, as well as small compositive associated with infectious disease. In particular, the assays can be abelted to fertility-pregnancy or canalytes associated with infectious disease. In particular, the assays considered with infectious disease. In particular, the assays considered with infectious disease. In particular, the assays considered with infectious disease. In particular, the analyte for a limit of them one, human considered to the proper considered with infectious disease. In particular, the analyte for a limit of the proper considered with infectious disease. In particular, then, human considered to the proper considered with infectious disease. In particular, then, human considered to the proper considered with infectious disease. In particular, then, human considered to the proper considered wi
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such as ferritin
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Sequence AA;

Query Match Best Local S Matches 4 Similarity 4; Conserv SSLF 5 Conservative 94.7%; 5 100.0%; Pr Score 18; Pred. No. DB 18; I 9.3e+05; hes 0; Length 7 0; Gaps 0

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AAW10779 standard; peptide; 7 AA

AAW10779;

25-MAR-2003 10-NOV-1997 (updated) (first entry)

Ferritin motif #22 important for selective binding affinity.

RESULT 11
AAW10779
ID AAW10
XX AAW10
AC AAW10
XX 25-MA10
XX PORT
DT 10-NC
XX FUNCT
XX FUNCT
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XX GAR Functional surrogate; analyte; affinity receptor; immunoreactive group; mimic; homogenous immunoassay; detection; diagnostic analyte; Chlamydia; cardiac marker; tumour marker; allergen; hormone; fertility; myoglobin; pregnancy; infectious disease; ferritin; myosin light chain; troponin; follicle stimulating hormone; human; growth hormone; immunoglobulin E; prolactin; parathyroid hormone; human; growth hormone; hapatitis antigen; antibody; chorionic gonadotropin; luteinising hormone; cytomegalovirus;

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AAW10784
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                                                                                                                                   RESULT 12
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Matches 4
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  25-MAR-2003
10-NOV-1997
                                                         AAW10784;
                                                                                                                                                                                                                                                                                                                                                Sequence
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                                                                                              AAW10784 standard;
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                                                                                                                                                                                                                             SSLF
                                                                                                                                                                                                                                                                    94.7%; Score 18; DB 18; llarity 100.0%; Pred. No. 9.3e+05; Conservative 0; Mismatches 0;
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Functional surrogate; analyte; affinity receptor; immunoreactive group; mimic; homogenous immunoassay; detection, diagnostic analyte; Chlamydia; cardiac marker; tumour marker; allergen; hormone; fertility; myoglobin; pregnancy; infectious disease; ferrilin; myosin light chain; troponin; follicle stimulating hormone; human; growth hormone; immunoglobulin E; prolactin; parathyroid hormone; placental lacrogen; hepatitis antigen; antibody; chorionic gonadotropin; luteinising hormone; cytomegalovirus; streptcocccus; rubella; toxoplasma; DK-MB; prostate-specific antigen; carcinoembryonic antigen; alpha-fetoprotein; herpes virus; CA125.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   selective binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    affinity
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Labelled functional surrogate of an analyte - useful as competitor molecule in affinity assays, esp. for detecting large macromolecules such as ferritin

WPI; 1997-077284/07 Lee-owen FV,

Carter JM;

07-JUN-1995;

95US-0476375 96WO-US10498

(CYTO-) CYTOGEN CORP

07-JUN-1996;

19-DEC-1996

Claim 51; Page 56; 156pp; English

CC such as this may be used as functional surrogates in the conjugate of the invention. The novel labelled conjugate comprises at least one Clabel attached to a functional surrogate of an analyte of interest. CC The surrogate is capable of competing effectively with the analyte CC for a limiting amount of an affinity receptor for the analyte. The CC conjugate exhibits an activity that is altered upon interaction with CC the affinity receptor and this activity can be measured and related to CC the amount of the analyte present in a sample. Functional surrogate s such as this have an immunoreactive group that allows the surrogates CC compete effectively and with the analyte for a limiting amount of its cc conjugate string analytes. They can be labelled for use in standard competitive concurring analytes. They can be labelled for use in standard competitive concurring analytes such as polypeptides, polysaccharides, polynucleotides, glycoproteins and lipid-containing macromolecules, as well as small containing macromolecul This sequence represents a peptide motif derived from ferritin which important for selective binding affinity. Peptides containing motifs containing motifs 18

Sequence 7 AA;

밁 Š Query Match Best Local S Matches 4 N 4. Similarity SSLF 5 Conservative 94.7%; Score 18; DB 18; 100.0%; Pred. No. 9.3e+05; ive 0; Mismatches 0; Length 7; 0 Gaps

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RESULT 13
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macromolecules such as polypeptides, polypaccharides, as well as small haptens. Typical diagnostic analytes for detection include cardiac or tumour markers, allergens, hormones related to fertility-pregnancy or analytes associated with infectious disease. In particular, the assays are useful for detecting ferritin, follicle stimulating hormone, human growth hormone, immunoglobulin E, prolactin, parathyroid hormone, human placental lactogen, hepatitis antigens or antibodies against them, human chorionic gonadotropin, human luteinising hormone, cytomegalovirus, Chlamydia, Streptococcus a, rubella, toxoplasma, herpes virus, DK-MB, myoglobin, myosin light chain, troponin, carcinoembryonic antigen, alpha-fetoprotein, prostate-specific antigen and CA125 (a tumour marker). (Updated on 25-MAR-2003 to correct PI field.)
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This sequence represents a peptide motif derived from ferritin which is comportant for selective binding affinity. Peptides containing motifs consumers this may be used as functional surrogates in the conjugate of the invention. The novel labelled conjugate comprises at least one conjugate is capable of competing effectively with the analyte conjugate is capable of competing effectively with the analyte conjugate exhibits an activity that is altered upon interaction with the affinity receptor and this activity can be measured and related to the affinity receptor and this activity can be measured and related to the amount of the analyte present in a sample. Functional surrogates such as this have an immunoreactive group that allows the surrogate to compete effectively and with the analyte for a limiting amount of its affinity receptor. They can be labelled for use in standard competitive affinity assays (esp. homogenous immunosasys) for detecting large conformal surrogates are able to mimic naturally assays (esp. homogenous immunosasys) for detecting large conformal surrogates are solventian and lipid-containing macromolecules, as well as small conformation and lipid-containing macromolecules, as small as small conformation include cardiac or
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RESULT 15
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Matches
The invention describes a method of producing soluble human leukocyte antigen (HLA) molecules (SHLA) in cell pharm involving amplifying HLA allelic DNA by PCR using a locus specific primer to produce truncated a PCR product (PI), inserting P1 into mammalian expression vector; electroporating the plasmid into a host cell; inoculating the cell pharm with the host cell such that cell pharm produces SHLA. A multimeric HLA complex (I) is useful for testing functionality of peptide ligands bound by at least two soluble HLA molecules. (I) can be tested for its ability to serve as ligands for cytotoxic T lymphocytes (CTLs) and induce immune
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18-DEC-2000; 2000US-256410P.
10-OCT-2001; 2001US-0974366.
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4; Conserv
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CC responses in humans. (I) is useful for studying T cell responses to capathological conditions such as viral infections and cancer, and for modulating the human immune system to induce tolerance in autoimmune capacity diseases. The individual secreted major histocompatibility complex (MHC) can development) and to the development of diagnostics. With the capacity response of the development of diagnostics. With the secreted MHC molecules, naturally loaded peptides can be eluted from the capacity for the development of diagnostics. With the secreted MHC molecules allow the capacity for the peptide pools extracted from series of distinct yet related class I HHA-BIS allotypes; compare the different ligand maps to identify potentially shared elements; and characterise the elements constitutely potentially shared elements; and characterise the elements of coverlapping ligands. The truncated version of (MHC) can be produced in mammalian or insect/bacterial cells such that milligram or greater quantities of an individual class I or class II molecule can be obtained. The sequence represents a HLA (human leukocyte antigen) epitope.
Sequence
7 AA;
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밁 Ş Matches Query Match Best Local Similarity 4; Conserv SSLF 7 S 3TSS Conservative 94.7%; 5cc 100.0%; Pr Score 18; DB; Pred. No. 9.3 DB 23; I . 9.3e+05; ches 0; Length 7; 0 Gaps

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Search completed: January 29, 2004, 14:52:14
Job time: 20.4853 secs

A;Reference number: S57494
A;Accession: S57518
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-18 <BUR>

A;Cross-references: EMBL:Z49920; NID:g887490; PIDN:CAA90166.1; PID:g887491 C;Keywords: T-cell receptor

Length 18;

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T38892 G71025	\$44892 \$73700	AG0277 A83971	G64521 C71984	C82369	C84274 AB2604	S19987 C69013	S19984
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ALIGNMENTS

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Craft receptor beta chain V region - human (fragment)
Craft receptor beta chain V region - human (fragment)
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Craft receptor beta chain V region - human (fragment)
Craft receptor beta chain V region - human (fragment)
Craft receptor beta chain V region - human (fragment)
Craft receptor beta chain V region - human (fragment)

C;Accession: 857518
R;Burrows, S.R.; Silins, S.L.; Moss, D.J.; Khanna, R.; Misko, I.S.; Argaet, V.P. submitted to the EMBL Data Library, June 1995
A;Description: T cell receptor repertoire for a viral epitope in humans is diversified

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Rigabrielsson, B.; Fairhall, K.M.; Robinson, I.C.A.F.

J. Endocrinol. 124, 371-380, 1990
A;Title: Growth hormone secretion in the guinea-pig.
A;Reference number: A60739; MUID:90237710; PMID:1970601
A;Accession: A60739
A;Molecule type: protein
A;Residues: 1-20 <GAB>
C;Comment: The growth hormone system in the guinea pig is unusual among mammals in C;Superfamily: prolactin
C;Superfamily: prolactin
                                                                                                                                                                                                                                                                                                                                      somatotropin - guinea pig (fragment)

N;Alternate names: growth hormone
C;Species: Cavia porcellus (guinea pig)
C;Date: 28-Apr-1993 #sequence_revision 28-Apr-1993 #text_change 17-Mar-1999
C;Accession: A60739
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100.0%; Pred. No. 64;
tive 0; Mismatches
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T-cell receptor alpha chain J region (TA20) - mouse (fragment)
(;Species: Nus musculus (house mouse)
(;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 05-Nov-1999
(;Accession: S03481
R;Arden, B.; Klotz, J.L.; Siu, G.; Hood, L.E.
Nature 316, 783-787, 1985
A;Title: Diversity and structure of genes of the alpha family of mouse T-cel
A;Reference number: S03467; NUID:85296324; PMID:3839904
A;Accession: S03481
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A; Molecule type: mRNA
A; Residues: 1-10,'A',12-13,'R',15-20,'T',22,'D',24
A; Experimental source: B cell; clone NP-7-12
                                                                                                                                                                        Ig heavy chain V region - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Becies: Mus musculus (house mouse)
C;Date: 24-Feb-1994 #sequence_revision 24-Feb-1994 #text_change 17-Mar-1999
C;Accession: PH1697; PH1699
R;McHeyzer-Williams, M.G.; McLean, M.J.; Lalor, P.A.; Nossal, G.J.V.
J. Exp. Med. 178, 295-307, 1993
A;Title: Antigen-driven B cell differentiation in vivo.
A;Reference number: PH1675; MUID:93301607; PMID:8315385
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A; Residues: 1-24 < MCH>
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A;Title: Antigen-driven B cell differentiation in vivo.
A;Reference number: PH1675; MUID:93301607; PMID:8315385
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A; Residues: 1-21 < ARD>
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A; Residues: 1-24 <MCH>
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;Species: Mus musculus (house mouse)
;Date: 24-Feb-1994 #sequence_revision 24-Feb-1994 #text_change 17-Mar-1999
;Accession: PH1696
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Best Local S
Matches 4
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                                                           Experimental source: B cell; Note: the authors translated Accession: PH1699
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100.0%; Pred. No. 75
tive 0; Mismatches
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hypothetical protein ORF34a - Norway spruce chloroplast C;Species: chloroplast Picea abies (Norway spruce) C;Datc: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 16-Jul-1999 C;Accession: Til814 C;Ricession: Til814 R;Kluemper, S.; Kanka, S.; Riesner, D.; Etscheid, M.
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hypothetical protein ECs1538 [imported] - Escherichia coli (strain C157:H7, C;Species: Escherichia coli (C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 18-Jul-2001 C;Accession: B90821
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A;Residues: 1-34 <KLU>
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Matches 4
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Date: 16-Feb-1994 #sequence_revision 18-Nov-1994 #text_change 30-May-1997
Accession: E47719
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4; Conservative
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he EMBL Data Library, March 1997
Characterisation of a Norway spruce chloroplast DNA clone: Complete
                                                                                                                                                                                       Conservative
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100.0%;
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AgrD protein [imported] - Staphylococcus aureus (strain N315)
C;Species: Staphylococcus aureus
C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 22-Oct-2001
C;Accession: C89995
R;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.;
ma, A.; Mizutani-ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu,
C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
Lancet 357, 1225-1240, 2001
A;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus.
A;Reference number: A89758; MUID:21311952; PMID:11418146
A;Accession: C89995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Species: Listeria ivanovii
C;Date: 02-Dec-1993 #sequence_revision 25-Oct-1996 #text_change 03-Jun-2002
C;Accession: S54405; S34728
R;Lampidis, R; Gross, R.; Sokolovic, Z.; Goebel, W.; Kreft, J.
Mol. Microbiol. 13, 141-151, 1994
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A;Tile: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and A;Reference number: A99629; MUID:21156231; PMID:11258796
A;Accession: B90821
                                                                                                                            A;Title: The virulence regulator protein of Listeria ivanovii is highly homologous to A;Reference number: S54403; MUID:95075291; PMID:7984088
A;Accession: S54405
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A;Experimental source: strain O157:H7, substrain RIMD 0509952
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A; Residues: 1-46 < HAY>
                A; Experimental source: A; Note: the nucleotide
                                                                                                                                                                                                                                                                                     ribose-phosphate diphosphokinase (EC 2.7.6.1) - Listeria ivanovii (fragment)
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                                                 A; Cross-references: EMBL: X72685; NID: g396074; PIDN: CAA51232.1; PID: g396077
                                                                                          A; Molecule type: DNA
;Genetics:
                                                                          ;Residues:
                                                                                                             Status: nucleic acid sequence not
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Best Local :
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Kasunaga, T.; Kuhara,
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                sequence was submitted to the EMBL Data Library, March
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100.0%; Fred. No. 1.7e+C
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Shiba, T.; Hattori,
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Shinagawa, H.
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A;Pathway: nucleotide biosynthesis
C;Superfamily: ribose-phosphate pyrophosphokinase catalytic chain
C;Keywords: diphosphotransferase; magnesium; nucleotide biosynthesis
RESULT 13
S01877
NADH2 dehydrogenase (ubiquinone) (EC 1.6.5.3) chain 5 -
C;Species: mitochondrion Artemia sp. (brine shrimp)
C;Date: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text
C;Accession: S01877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Accession: B71683 R;Andersson, J.O.; Sicheritz-Ponten, T.; Alsmark R;Andersson, J.O.; Sicheritz-Ponten, T.; Alsmark Nature 396, 133-140, 1998 A;Title: The genome sequence of Rickettsia prowazekii and the origin of mitochondria. A;Reference number: A71630; MUID:99039499; PMID:9823893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hypothetical protein RP279 - Rickettsia prowazekii
C;Species: Rickettsia prowazekii
C;Date: 21-Nov-1998 #sequence_revision 21-Nov-1998 #text_change 03-Nov-2000
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R;Carrasco, P.; Marco,
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                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: DNA
A;Residues: 1-55 <AND>
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A; Residues: 1-54 < CAR>
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Matches . 4
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;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 08-Oct-1999
;Accession: T06514
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Pisum sativum (garden
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cive 0; Mismatches
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100.0%; Pred. No. 2e+02;
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#text_change 03-Jun-2002

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R/Shchelkunov, S.N.; Totmenin, A.V.; Gutorov, V.V.; Safronov, P.F.; Massung, R.F.; Lopar submitted to GenBank, March 1998
A;Description: Analysis of the complete coding sequence of DNA of alastrim variola minor A;Reference number: A72150
A;Accession: H72168
                                                                                                                                      A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-62 <SHC>
A;Cross-references: GB:Y16780; NID:g5830555; PIDN:CAB54746.1; PID:e1542702; PID:g5830707
A;Experimental source: strain Garcia-1966
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C;Keywords:
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A;Molecule type: DNA
A;Residues: 1-62 «KAKK»
A;Cross_references: EMBL:D17510; NID:g529643; PIDN:BAA04348.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Batuecas, B.; Garesse, R.; Calleja, M.; Valverde, J.R.; Marco, Nucleic Acids Res. 16, 6515-6529, 1988
A;Tille: Genome organization of Artemia mitochondrial DNA.
A;Reference number: S01207; MUID:88289417; PMID:3135541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R:Wakasugi, T.; Tsudzuki, J.; Ito, S.; Nakashima, K.; Tsudzuki, T.; Sugiura, M. Proc. Natl. Acad. Sci. U.S.A. 91, 9794-9798, 1994
A;Title: Loss of all ndh genes as determined by sequencing the entire chloroplast genome A;Reference number: Z16030; MUID:95024047; PMID:7937893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein 62b - Japanese black pine chloroplast
C;Species: chloroplast Pinus thunbergiana (Japanese black pine)
C;Date: 14-May-1999 #sequence_revision 14-May-1999 #text_change 18-Aug-2000
C;Accession: T07470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-59 <BAT>
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Keywords: chloroplast
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                                                                                                                                                                                                                                                                                                                                                                                                                    Species: variola minor virus
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                                                                                                                                                                                                                                                                                                                                                                                                                                        protein - variola minor virus (strain Garcia-1966)
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nilarity 100.0%;
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  94.7%; Score 18; DB 2; Liarity 100.0%; Pred. No. 2.3e+02; Conservative 0; Mismatches 0;
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5. 2.3e+02;
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Qy 2 SSLF 5 |||| 5 Db 5 SSLF 8

Search completed: January 29, 2004, 14:58:25 Job time: 7.17647 secs

P39632 P440092 P441048 P08746 P34320 P34320 P34320 P141753 P141753 P141753 P141753 P141753 P34323333

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Maximum Match 100%
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Copyright (c) 1993 - 2004
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                              HYLD HUMAN
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RK16 PEA
RS19 MESAU
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EXYS_CHLEN
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YCLS_CASEL
YAVC_SCHPO
YEST_MYCPN
YUTS_YASGT
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Compugen Ltd.
Ogzóps rickettsia
P1907 artemia sal
P52805 pinus thunb
Ogskly4 chlamydia p
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Ogskly6 pinus thunb
Ogskly6 corynebacte
P16359 dipodomys c
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P3613 human cytom
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P75813 escherichia
P16813 human cytom
P80478 mus musculu
P75813 saccharomyc
P38350 saccharomyc
P38350 saccharomyc
P3815 sulfolobus
P36128 saccharomyc
P37515 sulfolobus
P36128 saccharomyc
P37515 sulfolobus
P36129 pisum sativ
P36140 mesocricetu
P4052 methanopyru
P74355 synechocyst
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Y279_RICPR
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Y279_RICPR
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Y279_RICPR
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Y279_RICPR
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J0.MAY-2000 (Rel. 39, Created)

D1

J0.MAY-2000 (Rel. 39, Last sequence update)

D1

J0.MAY-2000 (Rel. 40, Last sequence update)

D2

Hypothetical protein RP279.

GN

RP279.

GN

Rickettsiaceae; Rickettsieae; Rickettsia.

OC Rickettsiaceae; Rickettsieae; Rickettsia.

OC Rickettsiaceae; Rickettsieae; Rickettsia.

OX NCBI TaxID=782;

RN

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STRAIN=Madrid E;

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STRAIN=Madrid E,

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MEDLINE=99039499; PubMed=9823893;

RA Andersson S.G.E., Zomorodipour A., Andersson J

Scheritz-Ponten T., Alamark U.C.M., Podowski

RA Andersson A.-S., Winkler H.H., Kurland C.G.;

RT

MICCHONIA:

"The genome sequence of Rickettsia prowazekii

RA

Eriksson A.-S., Winkler H.H., Kurland C.G.;

RT

Micchondria.";

RL

Nature 396:133-140(1998).

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

STRAIN-Madrid E;

MEDLINE=99039499; PubMed=9823893;

Andersson S.G.E., Zomorodipour A., Andersson J.O.,

Sicheritz-Ponten T., Alsmark U.C.M., Podowski R.M., Naeslund

Eriksson A.-S., Winkler H.H., Kurland C.G.;

"The genome sequence of Rickettsia prowazekii and the origin
mitochondria.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR; B71683; B71683.
Hypothetical protein; Complete proteome.
SEQUENCE 55 AA; 6202 MW; CC6D7C51D29BD34E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rickettsia prowazekii.
Bacteria; Proteobacteria; Alphaproteobacteria; Rickettsiales;
Rickettsiaceae; Rickettsieae; Rickettsia.
      Artemia salina
                                                                                                                                                                                                                                                                                                                                                       14 SSLF 17
                                                                                                                                                                                                                                                                                                                                                                                                        2 SSLF 5
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(Rel. 28, Last annotation updat)
none oxidoreductase chain 5 (EC
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YKT9_CAEEL
PSAF_YERPE
GLB1_CHLEU
VP6_BPPH6
YJR5_YEAST
NU6M_MOUSE
NU6M_DROME
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YM19_HELAN
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                                                             1.6.5.3) (Fragment)
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Best Local S
Matches 4
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01-OCT-1996
01-OCT-1996
28-FEB-2003
                       This SWISS-PROT entry is copyright. It is produced through a collabbetween the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
                                                                                                                                               "LOSS of all ndh genes as determined by sequencing the entire chloroplast genome of the black pine Pinus thunbergii.";

Proc. Natl. Acad. Sci. U.S.A. 91:9794-9798(1994).

-!- FUNCTION: THE CYTOCHROME B6-F COMPLEX FUNCTIONS IN THE LINEAR CROSS-MEMBRANE TRANSPORT OF ELECTRONS BETWEEN PHOTOSYSTEM II AND I. AS WELL AS IN CYCLIC ELECTRON FLOW AROUND PHOTOSYSTEM I. PETL IS IMPORTANT FOR PHOTOAUTOTROPHIC GROWTH AS WELL AS FOR ELECTRON TRANSFER EFFICIENCY AND STABILITY OF THE CYTOCHROME B6-F COMPLEX.

-!- SUBCELLULAR LOCATION: Thylakoid membrane-associated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; X07663; CAA30510.1; -.
OXIdoreductase; NAD; Ubiquin
NON TER
1 1
SEQUENCE 59 AA; 6585 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
MEDITINE=88289417; PubMed=3135541;
Batuecas B., Garesse R., Calleja M., Valverde J.R.,
"Genome organization of Artemia mitochondrial DNA."
Nucleic Acids Res. 16.6515-6529(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mitochondrion.
Eukaryota; Metazoa;
Artemiidae; Artemia.
                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE=95024047; PubMed=7937893;
Wakasugi T., Tsudzuki J., Ito S.,
                                                                                                                                                                                                                                                                                                                                                                                          Spermatophyta; C
NCBI_TaxID=3350;
                                                                                                                                                                                                                                                                                                                                                                                                                        Chloroplast.
Eukaryota; Viridiplantae;
                                                                                                                                                                                                                                                                                                                Sugiura M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- CATALYTIC ACTIVITY: NADH + ubiquinone = NAD(+) + ubiquinol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pinus thumbergii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HINIA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g- 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Rel. 34, Created)
(Rel. 34, Last sequence update)
(Rel. 41, Last annotation update)
56-f complex subunit VI (Cytochrome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94.7%;
ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Green
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arthropoda; Crustacea; Branchiopoda; Anostraca;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          pine)
                                                                                                                                                                                                                                                                                                                                                                                                                            Streptophyta;
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Pred. No. 1.3e+02;
0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                Nakashima K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                            black pine).
                                                                                                                                                                                                                                                                                                                                                                                                              Embryophyta; Tracheophyta; es; Pinaceae; Pinus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            b6f complex
                                                                                                                                                                                                                                                                                                                                Tsudzuki
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                                                                                                         a collaboration
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Best Local S
Matches 4
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Q9K1¥4;
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
28-FBB-2003 (Rel. 41, Last annotation update)
Probable exodeoxyribonuclease VII small subunit
Exonuclease VII small subunit).
XEEB OR CPN1061.1 OR CP0788.
Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria; Chlamydiae; Chlamydiales; Chlamydiacea
                                                                                                   Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K., Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.; "Comparison of whole genome sequences of Chlamydia pneumoniae J138 from Japan and CWL029 from USA.", Nucleic Acids Res. 28:2311-2314 (2000).

-I- FUNCTION: BIDIRECTIONALLY DEGRADES SINGLE-STRANDED DNA INTO LARGI ACID-INSOLUBLE OLIGONUCLEOTIDES, WHICH ARE THEN DEGRADED FURTHER INTO ENALL ACID-SOLUBLE OLIGONUCLEOTIDES (BY SIMILARITY).

-I- CATALYTIC ACTIVITY: Exonucleolytic cleavage in either 5'- to 3'- to 5'-direction to yield nucleoside 5'-phosphates.

-I- SUBUNIT: Heterooligomer composed of large and small subunits (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=99206606; PubMed=10192388;
Kalman S., Mitchell W., Marathe R., Lammel C., Fan J., Hyman Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
"Comparative genomes of Chlamydia pneumoniae and C. trachomat Nat. Genet. 21:385-389(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Electron transport;
Thylakoid,
TRANSMEM 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; D17510; BAA04348.1;
PIR; T07470; T07470.
HAMAP; MF 00433; atypical;
Pfam; PF05115; PetL; 1.
                                                                                                                                                                                                                                                                                                                                                                  Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg White O., Hickey E.K., Peterson J., Utterback T., Berry Linher K., Weidman J., Khouri H., Craven B., Bowman C., Gwinn M., Nelson W., DeBoy R., Kolonay J., McClarty G., Eisen J., Fraser C.M.;
"Genome sequences of Chlamydia trachomatis MoPn and Chla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHLPN
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This SWISS-PROT entry is copyright. It is produced through a c
between the Swiss Institute of Bioinformatics and the EMBL
the European Bioinformatics Institute. There are no restrict
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                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN=J138;
                                                                                                                                                                                                                                                                                                                                      pneumoniae AR39.";
Nucleic Acids Res. 28:1397-1406(2000)
                                                                                                                                                                                                                                                                          MEDLINE=20330349;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=20150255; PubMed=10684935;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                          similarity).
SUBCELLULAR LOCATION: Cytoplasmic (By s
SIMILARITY: BELONGS TO THE XSEB FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
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                                                                                                                                                                                                                                                                           PubMed=10871362;
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Pred. No.
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85D87358A3D7E87F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pneumoniae) .
Chlamydiaceae;
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. 1.4e+02;
ches 0;
                                                                           similarity).
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                                                                                                                                                                                                                                                                                                                                                                       Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                  J.F.,
K., Bass
Dodson R.,
Salzberg
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                                a collaboration
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RESULT 5
SECOND DT 28-1
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R EMBL; AE002238; AAF38587.1; -.

R EMBL; AE002238; AAF38587.1; -.

R PIR; A81539; A81539.

R TIGR; CP0788; -; 1.

R TIGR; CP0788; -; 1.

R HAMAP; MF 00337; -; 1.

R ILLETFO; IP003761; EXONUC_VII_S.

R PINDOM; PF02609; EXONUC_VII_S; 1.

R PINDOM; PF02609; EXONUC_VII_S; 1.

R PINDOM; PT028235; EXONUC_VII_S; 1.

R PIGRPAMS; TIGR01280; XseB; 1.

R PIGRPAMS; TIGR01280; XseB; 1.

R PIGRPAMS; TIGR01280; ASB; 1.

R PIGRPAMS; TIGR01280; ASB; 1.

R PIGRPAMS; TIGR01280; ASB; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Complete genomic sequence of Corynebacterium glutamicum ATCC 13032."; Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: INVOLVED IN PROTEIN EXPORT. PARTICIPATES IN AN EARLY EVENT OF PROTEIN TRANSLOCATION (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: Integral membrane protein (By similarity).
-!- SIMILARITY: BELONGS TO THE SECG FAMILY.
                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

STRAIN=ATCC 13032 / DSM 20300 / NCIB 10025;

Jakoby M.J., Burkovski A., Meier-Wagner J.;

Jakoby M.J., Burkovski A., Meier-Wagner J.;

"Ammonium uptake in Corynebacterium glutamicum is regulated level of expression and enzyme activity.";

Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Corynebacterium glutamicum (Brevibacterium flavum).
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9Z469;
30-MAY-2000 (Rel. 39,
30-MAY-2000 (Rel. 39,
28-FEB-2003 (Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SECG
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                                  PRINTS; PR01651; SECGEXPORT.
TIGRFAMS; TIGR00810; secG; 1
                                                                                                                                              EMBL; AJ007732; CAA07632.1; -. EMBL; AP005279; BAB98977.1; -.
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STRAIN=ATCC 13032 /
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                                                                                        Pfam; PF03840; SecG;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=1718;
                                                                                                                        InterPro; IPR004692; SecG.
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      transport;
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Translocation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DSM 20300 / NCIB 10025;
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Last annotation update)
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Pred. No.
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   Transmembrane; Complete proteome
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Best Local
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P16359;
01-AUG-1990
01-AUG-1990
15-SEP-2003
                                                    METAL
NON_TER
SEQUENCE
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TRANSMEM
SEQUENCE
                                                                                                                             EMBL; M25684; AAA31715.1; ...
InterPro; IPR005798; Cytb_b6_C.
InterPro; IPR005797; Cytb_b6_N.
Pfam; PF00033; cytochrome_b_N; 1.
PROSITE; PS00193; CYTOCHROME_B_HEME; 1.
PROSITE; PS00192; CYTOCHROME_B_HEME; 1.
Electron transport; Mitochondrion; Respiratory chain;
                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the RME outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

MEDLINE=89345630; PubMed=2762322;

Kocher T.D., Thomas W.K., Meyer A., Edwards S.V., Paabo S.,

Villablanca F.X., Wilson A.C.;

"Dynamics of mitochondrial DNA evolution in animals: amplification
and sequencing with conserved primers.";

Proc. Natl. Acad. Sci. U.S.A. 86:6196-6200(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Heteromyidae;
Dipodomyinae; Dipodomys.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
15-SEP-2003 (Rel. 42, Last annotation update)
Cytochrome b (Fragment)
MTCYB OR COB OR CYTB.
                                                                                            Heme.
NON TER
METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dipodomys californicus (Kangarco rat).
                                                                                                                                                                                                                                                                                                                                      SUBUNIT: The main subunits of complex b-cl are: cytochrome cytochrome cl and the Rieske protein (By similarity). SIMILARITY: Belongs to the cytochrome b family.
                                                                                                                                                                                                                                                                                                                                                                                                      FUNCTION: Component of the ubiquinol-cytochrome c red complex (complex III or cytochrome b-c1 complex), whi respiratory chain that generates an electrochemical p coupled to ATP synthesis (By similarity). Grace COPACTOR: Binds two heme groups non-covalently. Heme b562) is low-potential and absorbs at about 562, and or b566) is high-potential and absorbs at about 566 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31 SSLF 34
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55
77 AA;
                                                 1
37
51
79
9 AA;
94.7%; Score 18;
llarity 100.0%; Pred. No.
Conservative 0; Mismatc)
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                                                     9067 MW;
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100.0%; Pr
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75
                                                                               IRON
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Pred. No.
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POTENTIAL.
B3819B9DAC5D140C
                                                    62F9B7E195C884EE CRC64;
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                                                                              (HEME
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                           DB
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                                                                              B562
                           <u>ب</u>
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                                                                            AXIAL LIGAND)
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                        Length 79;
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), which is
                                                                                                                                    Transmembrane;
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Matches

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YOG4_CAEEL
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YC15_OENVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 4
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EWBL; X64616; CAA45899.2; -.
PIR; S19984; S19984.
PIR; S19987; S19987.
Chloroplast; Hypothetical prot
SEQUENCE 80 AA; 9408 MW; B
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01-JUL-1993 (
16-OCT-2001 (
Hypothetical
YCF15.
                                                                                                                                                                                                                                                                            P34613;
01-FEB-1994
01-FEB-1994
28-FEB-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids_II; Myrtales; Onagraceae; Oenothera.
SEQUENCE FROM N.A.
STRAIN=Bristol N2;
MEDLINE=94150718;
                                                                                                                                    Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nimzyk R., Shoendorf T., Hachtel W.; "In-frame length mutations associated with short tandem repeats are located in unassigned open reading frames of Oenothera chloroplast
                                                                                                                                                                                                                                              Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=93169690; PubMed=8435856;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oenothera villaricae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=3941,
                                                                                                          VCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         urr. Genet. 23:265-270(1993).
:- SIMILARITY: BELONGS TO THE YCF15 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                         CAEEL
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(Rel. 28, Last sequence update)
(Rel. 41, Last annotation update)
1 protein ZK112.4 in chromosome III
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(Rel. 26, Last sequence update)
(Rel. 40, Last annotation update)
1 9.4 kDa protein ycf15 (ORF 80).
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     PubMed=7906398;
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W; B5C0BC2D1D354846 CRC64;
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Pred. No. 1.8e+02;
0; Mismatches 0;
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Best Local Similarity
Matches 4; Conserv
                                                                                                                                        WormPep; ZK11
Hypothetical
SEQUENCE 10
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Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Coulson A.
Craxton M., Dear S., Du Z., Durbin R., Favello A., Fraser A.,
Fulton L., Gardner A., Green P., Hawkins T., Hillier L., Jier M.,
Johnston L., Jones M., Kershaw J., Kirsten J., Laisster N.,
Latreille P., Lightning J., Lloyd C., Mortimore B., O'Callaghan M.,
Parsons J., Percy C., Rifken L., Roopra A., Saunders D., Shownkeen F.
Sims M., Smaldon N., Smith A., Smith M., Sounhammer E., Staden R.,
Sulston J., Thierry-Mieg J., Thomas K., Vaudin M., Vaughan K.,
Watterston R., Watson A., Weinstock L., Wilkinson-Sproat J.,
Wohldman P.,
                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a c between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                           EMBL; L14324; AAA28187.1;
PIR; S44892; S44892.
                                                                                                                                                                                                                                                                                                                                                                                          Nature 368:32-38(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                            12.2 Mb of contiguous nucleotide sequence from chromosome III
39
SSLF 42
                                SSLF 5
                                                                                                                                                                            ZK112.4;
                                                                                                                                          l protein.
100 AA; 11248 MW;
                                                                       Conservative
                                                                                                                                                                            CE00375.
                                                                                     94.7%;
100.0%;
                                                                    s; Pred. No. 2.2.
0; Mismatches
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2.2e+02;
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YARSOLLT ID CAN COLOR OF SOLUTION OF SOLUT RX WEDLINE-21846401; PubMed=11859360;

RX WOOD V., Gwilliam R., Rajandream M.A., Lyne M., Lyne R., Stewart A.,

Sgouros J., Peat N., Hayles J., Baker S., Basham D., Bowman S.,

RX Sgouros J., Peat N., Hayles J., Basham D., Bowman S.,

RX Schies S., Goble A., Hamlin N., Davis P., Feltwell T., Fraser A.,

RX Collins M., Connor R., Cronin A., Davis P., Feltwell T., Hodgson G.,

RX Gentles S., Goble A., Hamlin N., Harris D., Hidalgo J., Hodgson G.,

RX Gentles S., Goble A., Hamlin N., Harris D., Hidalgo J., Hodgson G.,

RX Gentles S., Goble A., Hamlin N., Harris D., Hodgson G.,

RX Gentles S., Goble A., Hamlin N., Harris D., Hodgson G.,

RX Gentles S., Goble A., Hamlin N., Harris D., Hodgson G.,

RX Janes K., Jones L., Jones M., Leather S., McDonald S., McLean J.,

RX Janes K., Jones L., Jones M., Leather S., McDonald S., McLean J.,

RX Joliver K., Gynell S., Pearson D., Quail M.A., Rabbinowitsh E.,

RX Rutherford K., Rutter S., Saunders D., Seeger K., Sharp S.,

RX Rutherford K., Rutter S., Saunders D., Seeger K., Sharp S.,

RX Rutherford K., Simmonds M., Squares R., Squares S., Stevers K.,

RX Rutherford K., Taylor R.G., Tivey A., Walsh S. V., Warren T., Whitehead S.,

RX Taylor K., Taylor R.G., Tivey A., Walsh S. V., Warren T., Whitehead S.,

RX Moddward J., Volckaert G., Aert R., Robben J., Grymonprez B.,

RX Moddward J., Vanstreels E., Rieger M., Schaefer M., Mallbert H.,

RA Horzym K., Langer I., Beck A., Lehrach H., Reinhardt R., Pohl T.M.,

RX Eger P., Zimmermann W., Wedler H., Wambutt R., Purnelle B., 01-OCT-1996 (Rel. 34, 0 01-OCT-1996 (Rel. 34, I 28-FEB-2003 (Rel. 41, I Very hypothetical prote SCHPO Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
Schizosaccharomycetales; Schizosaccharomycetaceae; SEQUENCE FROM N.A. STRAIN=972; Q10219; YAYC Schizosaccharomyces. φ [_TaxID=4896; SCHPO STANDARD; 34, Last sequence up 41, Last annotation protein C4H3.12c in Created) e update) ion update) in chromosome 101

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GeneDB SPombe; SPAC4H3.12c; -.

Hypothetical protein; Transmembrane.

Hypothetical protein; Transmembrane.

TRANSMEM 25 45 POTENTIAL.

TRANSMEM 25 46 POTENTIAL.

TO DAI: 11914 MW; 6C686502AE2C0B09 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN=ATCC 29342 / M129;
MEDLINE=97105885; PubMed=8948633;
Himmelreich R., Hilbert H., Plagens H.,
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Bacteria; Firmicutes; Mollicutes; Mycoplasmataceae; Mycoplasma.
Pfam; PF00938; Lipoprotein 3; ProDom; PD003276; Lipoprotein PROSITE; PS00013; PROKAR_LIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                    pneumoniae.";
Nucleic Acids Res. 24:4420-4449(1996).
-!- SUBCELLULAR LOCATION: Attached to the membrane by a lipid anchor
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                                                                                                        EMBL; AE000036; AAB96022.1;
PIR; S73700; S73700.
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                                                                      InterPro; IPR001595; Lipoprotein_3.
                                                                                                                                                                                                                                                                                                                                                                                                       -!- SIMILARITY: BELONGS TO THE MG439 / MG440 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'Complete sequence analysis of the genome
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LIPOPROTEIN;
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Pred. No.
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P47059;
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SIGNAL 1 25 POTENTIAL.
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SEQUENCE FROM N.A. Pohl T.M., Aljinov
                                                                           Saccharomyces cerevisiae (Baker's Eukaryota; Fungi; Ascomycota; Sacc Saccharomycetales; Saccharomycetac
                                                                                                                                                               01-FEB-1996 (Rel. 33,
01-FEB-1996 (Rel. 33,
15-JUL-1998 (Rel. 36,
Hypothetical 12.4 kDa
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Viruses; dsDNA viruses,
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101 HYPOTHETICAL LIPOPROTEIN !
26 N.ACYL DIGLYCERIDE (POTEN'
11349 MW; 4DF66497B155C006 CRC64;
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protein in DBP4-BET4 intergenic region.
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Pred. No.
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Pred. No
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CERIDE (POTENTIAL).
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RESULT 13
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PIR; S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eishun M.;
Submitted (DEC-1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Candida maltosa (Yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; mitosporic Saccharomycetales; Candida.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P44P_CANMA STANDARD; PRT; 105 AA. 000497; Q00494; 01-NOV-1997 (Rel. 35, Created) 16-OCT-2001 (Rel. 40, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) 60S ribosomal protein L44 P (L41) (L41 P-type) L41P1A AND L41P1B.
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                                                                                                                                                                                                                                          Pfam; PF00935; Ribosomal_L44; 1.
ProDom; PD002841; Ribosomal_L44E; 1.
PROSITE; PS01172; RIBOSOMAL_L44E; 1.
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-!- MISCELLANEOUS: CYCLOHEXIMIDE SENSITIVE TYPE.
-!- SIMILARITY: BELONGS TO THE L44E FAMILY OF RIBOSOMAL PROTEINS.
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Hypothetical protein.
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                                                                                                                                                                                                                                                                                                           InterPro; IPR000552; Ribosomal_L44E
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2.3e+02;
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101 SSLF 104 N 4; Similarity

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Score 18; DB; Pred. No. 2.3

DB 1; 2.3e+02

Length 105;

Query Match Best Local 9 Matches

MOD RES CONFLICT SEQUENCE

105 AA;

46

1 46 11138

BLOCKED. K -> E (IN REF. 1). K -> E756E7CD5EA89C24 CRC64;

Ribosomal

protein

PIR; S53651; R5UCIZ.
InterPro; IPR001813; 60s_ribosomal.
Pfam; PF00428; 60s_ribosomal; 1.

EMBL; X59038; CAA41765.1; PIR; S53651; R5UC12.

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RESULT 14
RL12_SULAC
STAR REPORT OF THE PROPERTY OF
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STRAIN-ATCC 33909 / NCIB 11770 /
STRAIN-ATCC 33909 / NCIB 11770 /
STRAIN-ATCC 33909 / NCIB 11770 /
                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-siborsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ramirez C., Shimmin L.C., Newton C.H., Can. J. Microbiol. 35:975-975(1989).
-!- FUNCTION: SEEMS TO BE THE BINDING:
INVOLVED IN PROTEIN SYNTHESIS AND ACCURATE TRANSLATION.
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Ramirez C., Shimmin L.C., Newton C.H., Matheson A.T.,
"Structure and evolution of the L11, L1, L10, and L12
ribosomal proteins in eubacteria, archaebacteria, and
Can. J. Microbiol. 35:234-244(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIINE=95055761; PubMed=7966335; P., Matheson A.T. Ramirez C., Shimmin L.C., Leggatt P., Matheson A.T. "Structure and transcription of the L11-L1-L10-L12 gene operon from the extreme thermophilic archaeon acidocaldarius.";
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"The complete amino acid sequence of the ribosomal A.
From the archaebacterium Sulfolobus acidocaldarius.";
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Archaea; Crenarchaeota; Thermoprotei; Sulfolobales; Sulfolobaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     231:331-335(1988).
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equivalent
leucaryotes.";
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RESULT 15
PT17_STYPL STANDARD; PRT; 112 AA.

ID PT17_STYPL STANDARD; PRT; 112 AA.

AC P28209;
DT 01-DEC-1992 (Rel. 24, Created)
DT 01-DEC-1992 (Rel. 24, Last sequence update)
DT 01-OCT-1994 (Rel. 30, Last annotation update)
DE Protein-tyrosine phosphatase 17 (EC 3.1.3.48) (Fragment).

GN STY 17.
Search completed: January 29, 2004, 14:53:12 Job time : 4.23529 secs
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HSSP; P18052; 1YFO.

InterPro; IPR000387; TYR_phosphatase.

InterPro; IPR000342; Tyr_PP.

Pfam; PF00102; Y_phosphatase; 1.

PROSITE; PS00383; TYR_PHOSPHATASE 1; PARTIAL.

PROSITE; PS50056; TYR_PHOSPHATASE_2; PARTIAL.

PROSITE; PS50055; TYR_PHOSPHATASE_PTP; 1.

PROSITE; PS50055; TYR_PHOSPHATASE_PTP; 1.

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SEQUENCE 112 AA; 13081 MW; 2BE9D9B8DCCSDB78
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Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Stolidobranchia; Styelidae; Styela.

NCBI_TaxID=7726;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PRCT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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MEDLINE=91139172; PubMed=1704870;
Matthews R.J., Flores E., Thomas M.L.;
"Protein tyrosine phosphatase domains from the protochordate Styela
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Immunogenetics 33:33-41(1991).
-!- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 = protein
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1: sp_archea:*
2: sp_bacteria:*
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4: sp_human:*
5: sp_invertebrate
6: sp_mammal:*
7: sp_mhc:*
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10: sp_plant:*
11: sp_vertebrate
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    sp_invertebrate:*
sp_mammal:*
sp_mhc:*
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sp_organelle:*
sp_phage:*
sp_plant:*
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O95795 homo sapien
O95771 staphylococ
O86355 heparitis c
O86356 heparitis c
O895572 heparitis c
O895578 heparitis c
O806885 heparitis c
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095795
ID 095795
PRELIMINARY; PRT; 17 AA.
AC 095795;
DT 01-MAY-1999 (TrEMBLrel. 10, Created)
DT 01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT 01-MAY-1999 (TrEMBLrel. 10, Last annotation update)
DT 01-MAY-1999 (TrEMBLrel. 10, Last annotation update)
B Advanced glycosylation end product-specific receptor
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ALIGNMENTS

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STRAIN-ATCC12600;
MEDLINE=93152142; PubMed=1369143;
MEDLINE=93152142; PubMed=1369143;
MEDLINE=93152142; PubMed=1369143;
Makamura E., Teraoxa ...
Kakudo S., Yoshikawa K., Tamaki M., Nakamura E., Teraoxa ...
"Secretory expression of a glutamic-acid-specific endopeptidase
"Secretory expression of a glutamic-acid-specific endopeptidase
"Secretory expression of a glutamic-acid-specific endopeptidase
(SPase) from Staphylococcus aureus ATCC12600 in Bacillus subtilis.";

(SPase) from Staphylococcus aureus ATCC12600 in Bacillus subtilis.";

(SPase) from Staphylococcus aureus ATCC12600 in Bacillus subtilis.";
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01-MAR-2003
                                          Q8QSM6;
01-JUN-2002
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Bacteria; Firmicutes; Bacillales;
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NCBI_TaxID=11103;
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Coat protein; Envelope protein;
Polyprotein; Transmembrane.
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(Genome polyprotein) (Fragment).
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(TIEMBL. 23, Last annotation update)
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Pred. No.
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3.2e+02;
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Viruses; ssRNA po
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Viruses; ssRNA positive-strand viruses,
Hepacivirus.
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MEDLINE=20219428; PubMed=10756048;
Manzin A., Solforosi L., Debiaggi
Zanetti A.R., Clementi M.;
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Pfam; PF01560; HCV_NS1; 1.
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                              (TrEMBLrel. 21, Created)
(TrEMBLrel. 21, Last sequence update)
(TREMBLrel. 23, Last annotation update)
(Genome polyprotein) (Fragment).
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Last sequence update)
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; Pred. No. 3.2e+02;
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3.2e+02
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Viruses; ssRNA positive-strand viruses,
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Manzin A., Solforosi L., Debiaggi M.,
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                               Hepatitis C virus.
Viruses; ssRNA positive-strand
Hepacivirus.
NCBI_TaxID=11103;
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"Dominant role of host selective
evolution in perinatal infection.
J. Virol. 74:4327-4334 (2000).
EMBL; AF192429; AAF65640.1; -..
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InterPro, IPR002531; HCV_NS1.
Pfam; PF01560; HCV_NS1; 1.
                              Viruses; ssRNA positive-strand Hepacivirus. NCBI TaxID=11103;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaudy C., Moreau A., Veillon P., Lunel-Fabiani F., Goudeau "Pretreatment analysis of HCV-lb HVR1 amino acid sequences differentiate strains resistant and sensitive to antiviral Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases. EMBL; AF473773; AAL56843.1; -..
                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=98411405; PubMed=9738045; Mizuno M., Higuchi T., Kanmatsuse K., Esumi M.; "Genetic and serological evidence for multiple unrecognized transmission of hepatitis C virus units.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-1999 (TrEMBLrel. 10, Created)
01-WAY-1999 (TrEMBLrel. 10, Last sequence update)
01-WCT-2002 (TrEMBLrel. 22, Last annotation update)
E2 region (Genome polyprotein) (Fragment).
Hepatitis C virus.
Viruses; ssRNA positive-strand viruses, no DNA stag
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Gaudy C., Moreau A.,
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NCBI_TaxID=11103;
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Coat protein; Envelope protein; Glycoprotein; Nonstructural protein;
                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF01560; HCV_NS1; I.
Coat protein; Envelope protein;
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InterPro; IPR002531; HCV_NS1.
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(TrENMELrel. 23, Last annotation update)
(Genome polyprotein) (Fragment).
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                                                                                 PRELIMINARY;
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Pred. No.
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Search completed: January 29, 2004, 14:56:52 Job time : 15.9265 secs
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Best Local Similarity 100.0%; Pred. No. 3.2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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Q9J5Y5;
Q9J5Y5;
Q1-OCT-2000 (TrEMBLrel. 15, Created)
Q1-OCT-2000 (TrEMBLrel. 15, Last sequence update)
Q1-OCT-2002 (TrEMBLrel. 22, Last annotation update)
Polyprotein (Fragment).
Hepatitis C virus.
Viruse; serNa positive-strand viruses, no DNA stage; Flaviviridae;
Hepacivirus.
NCBI TaxID=11103;
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SEQUENCE 27 AA; 2852 MW; 0
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MEDLINE=20219428; PubMed=10756048;

MEDLINE=20219428; PubMed=10756048;

Manzin A., Solforosi L., Debiaggi M., Zara F., Tanzi E., Romano L.,

Zanetti A.R., Clementi M.;

"Dominant role of host selective pressure in driving hepatitis C virus
evolution in perinatal infection.";

J. Virol. 74:4327-4334(2000).
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STRAIN=R4C8;
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100.0%; Pred. No. 3.2e+02;
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1: /cgm2_6/ptodata/1
2: /cgm2_6/ptodata/1
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Listing first 45 summaries
  XSSLF 5
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US-09-339-511-8

US-08-660-70

US-09-073-898-67

US-09-339-511-1

US-09-339-511-3

US-09-339-511-3

US-09-339-511-3

US-08-161-452A-10

US-08-161-452A-10

US-08-165-552A-10

US-08-165-552A-10

US-08-165-552A-10

US-08-165-552A-10

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APPLICANT: Mayville, Patricia
APPLICANT: Mo. 6337385ick, Richard P.
APPLICANT: No. 6337385ick, Richard P.
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: INTERFERENCE
TITLE OF INVENTION: INTERFERENCE
TITLE OF INVENTION NUMBER: US/09/339,511
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOSTWARR: Patentin Ver: 2.0
SEQ ID NO 8
LENGTH: 5
        Sequence 67, Application US/08960780;
Fatent No. 6204435;
GENERAL INFORMATION:
APPLICANT: Feitelson, Jerald S.
APPLICANT: Schnepf, H. Ernest
APPLICANT: Narva, Kenneth E.
APPLICANT: Narva, Kenneth E.
APPLICANT: Stockhoff, Brian A.
                                                                              US-08-960-780-67; Sequence 67, Application US/08960780; Patent No. 6204435
                                                                                                                                                                                                                                                                          ; OTHER INFORMATION: Description of OTHER INFORMATION: peptide , NAME/KEY: VARIANT ; LOCATION: (1) OTHER INFORMATION: Xaa represents US-09-339-511-8
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Matches 4
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
TYPE: PRT
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US-08-818-253-48
US-09-094-359-16
US-09-172-063-36
US-09-172-063-36
US-09-18-252-48
US-09-416-919-21
US-09-316-919-21
US-09-316-919-21
US-09-169-015-34
US-09-169-015-37
US-09-18-27-25
US-09-18-27-748-26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/029,848
FILING DATE: 30-OCT-1996
ATTORNEY/AGENT INFORWATION:
NAME: Saliwanchik, David R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: No. 6204435el Pesticidal Toxins and Nucleotide TITLE OF INVENTION: Sequences Which Encode These Toxins NUMBER OF SEQUENCES: 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 32606-6669
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
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APPLICATION NUMBER: US,
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                                                       P: Morrill, George
F: Finstad-Lee, Stacey
INVENTION: No. 6242669el Pesticidal Toxins and Nucleotide
INVENTION: Sequences which Encode These Toxins
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                                                                                                                                                                                                                                                                                                     Application US/09073898
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2421 N.W. 41st Street, Suite A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9 amino acids
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Dullum, Charles Joseph
Muller-Cohn, Judy
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Schmeits, James
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Saliwanchik, Lloyd & Saliwanchik
21 N.W. 41st Street, Suite A-1
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                                                                                                                                                          um, Charles Joseph
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; Pred. No. 2.5e+05;
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Query Match
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; MOLECULE TYPE:
US-09-073-898-67
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Patent No. 6337385
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                SOFTWARE:
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
PRIOR FILING DATE: 1998-06-24
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SEQUENCE CHARACTERISTICS:
CHAR
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APPLICATION NUMBER: US 60/
FILING DATE: 30-OCT-1996
FRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/
FILING DATE: 30-OCT-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PELICAMY: J1, Guangyong
ITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
ITLE OF INVENTION: INTERFERENCE
ILE REFERENCE: 600-1-231N
                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                              ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                TYPE: PRI
                                                                                                                                                                                                                                                                                  ENGTH: 9
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APPLICATION NUMBER: US/09/073,898
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                                                                       AME/KEY: VARIANT
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STATE: FL
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OPERATING SYSTEM:
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REGISTRATION NUMBER: 39,355
REFERENCE DOCKET NUMBER: MA.
REFERENCE DOCKET NUMBER: MA.
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INFORMATION: Xaa represents any amino acid
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No. 6337385ick, Richard
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30-OCT-1997
                                                                                                 Description peptide
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Best Local
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SOFTWARE:
                                                                                                                                                                                                                                     Patent No. 6337385
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SOFTWARE: PatentIn Ver.
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                                                                         CURRENT APPLICATION NUMBER: US/09/339,511
CURRENT FILING DATE: 1999-06-24
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OTHER INFORMATION: Xaa represents any amino acid at this position
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                                                                                                                    PPLICANT: Ji, Guangyong ITLE OF INVENTION: NOVE
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LE OF INVENTION: NOVEL STAPHYI
LE OF INVENTION: INTERFERENCE
E REFERENCE: 600-1-231N
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Mayville, Patricia
No. 6337385ick, Richard
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337385
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No. 6337385ick, Richard P.
Beavis, Ronald
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SEQ ID NO 4
LENGTH: 9
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Best Local Similarity
                                                GENERAL INFORMATION:
APPLICANT: New York University Medical Center
TITLE OF INVENTION: BLOCKING EXPRESSION OF VIRULENCE FACTORS IN S.
FILE REFERENCE: 63753/7
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PRIOR FILING DATE: 1998-06-24
NUMBER OF STO
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Patent No. 6337385
                                                                                                                             Sequence
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CURRENT FILING DATE: 1999-06-24
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TITLE OF INVENTION: NOVEL STAPHY.
TITLE OF INVENTION: INVERFERENCE
FILE REFERENCE: 600-1-231N
 CURRENT APPLICATION NUMBER: US/08/861,476C CURRENT FILING DATE: 1997-05-22 NUMBER OF SEQ ID NOS: 8
NUMBER OF
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OTHER INFORMATION: Xaa represents any amino acid
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OTHER INFORMATION:
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                                                                                                                                                                                             Query Match
Best Local S
Matches 4
                                               Sequence 43, Application US/08406330 Patent No. 5817748
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Best Local Similarity
                                                                            08-406-330-43
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                                                                                                                                                                                                                                                                                                                                 TELEFAX: 619-554-6312
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Staphylococcus aureus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 00
FILING DATE: 02-AUG-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                         NAME: Logan, April C.
REGISTRATION NUMBER: 33,950
REFERENCE/DOCKET NUMBER: SC
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619-554-2937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
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CITY: La Jolla
CMATE: CA
      APPLICANT:
                                                                                                                                                                                                                                                                        MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Bokoch, Gary M
APPLICANT: Cournutte, John T
TITLE OF INVENTION: REGILATION OF OXIDATIVE BURST USING
TITLE OF INVENTION: LMWG-DERIVED PEPTIDES AND ANALOGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Pain-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/0:
FILING DATE: 15-NOV-1993
                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ASSIFICATION:
INFORMATION:
CANT: Miller, Jonathan L.
CANT: Lyle, Vicki A.
                                                                                                                                                                  2 SSLF 5
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                                                                                                                                                                                             Similarity 100 4; Conservative
                                                                                                                                                                                                                                                                                     amino acid
GY: linear
                                                                                                                                       SSLF 4
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10666 No. 5726155th Torrey Pines Road, TPC 8
                                                                                                                                                                                                                                                                                                                 12 amino acids
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                                                                                                                                                                                                                                                                        protein
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100.0%; Pr
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s; Pred. No. 66;
0; Mismatches
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                                                                                                                                                                                                             DB 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (716) 263-1600 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                    tent No. 58,000.
                                                                                                                                              COUNTRY: USA
ZIP: 30309-3450
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/406,330
APPLICATION NUMBER: US/08/637,759B
FILING DATE: 03-MAY-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB95/02875
FILING DATE: 11-DEC-1995
CLASSIFICATION: 435
                                                                                                               SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                               APPLICANT: David W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                 CITY: Atlanta
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
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1201 West Peachtree Street
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Clinton Square, P.O. Box 1051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12 amino acids
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                                                                                                                                                                                                                                                                                                                                                                    Identification of Genes
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Pred. No.
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ATTORNEY/AGENT INFORMATION:

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; TOPOLOGY: li
; MOLECULE TYPE:
US-08-556-597-43.
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Best Local Similarity 100.
"^*rhes 4; Conservative
Query Match
Best Local Similarity
                                                                                             TELEPHONE: (716) 263-1636

TELEPAX: (716) 263-1600

INFORMATION FOR SEQ ID NO: 43

SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids

TYPE: amino acid

STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 43,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Pabst, Patrea L.
REGISTRATION NUMBER: 31,284
REFERENCE/DOCKET NUMBER: RPMS 101
TELECOMMUNICATION INFORMATION:
TELEPHONE: (404) 873-8794
TELEPAX: (404) 873-8795
INFORMATION FOR SEQ ID NO: 201:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                FILING DATE:
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/406,330
FILING DATE: 17-MAR-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                     NAME: Timian, Susan J.
REGISTRATION NUMBER: 34,103
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
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STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
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                                                                                                                                                                                                        263-1636
 94.7%;
100.0%;
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100.0%; Pred. No. 66;
tive 0; Mismatches
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                                                                                                                                                                        43:
   Score 18;
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   DB 2;
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                Length 12;
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RESULT 14
US-09-035-249A-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Pabst, Patrea L.
REGISTRATION NUMBER: 31,284
REFERENCE/DOCKET NUMBER: RFMS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (404) 873-8794
TELEPAX: (404) 873-8795
INFORMATION FOR SEQ ID NO: 201:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
                                                                                                                   Sequence 10, Application US/09035249A
Patent No. 6184203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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Best Local Similarity
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GENERAL INFORMATION:
                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: li--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 09-JUN-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB95/02875
FILING DATE: 11-DEC-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 30309-3450
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Rel
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                          APPLICANT: Bokoch, Gary M
APPLICANT: Curnutte, John T
TITLE OF INVENTION: REGULATION OF OXIDATIVE BURST USING
TITLE OF INVENTION: LAMG-DERIVED PEPTIDES AND ANALOGS
                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE:
HYPOTHETICAL:
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Patrea L. Pabst
STREET: 2800 One Atlantic Center
STREET: 1201 West Peachtree Stre
                                                                                                                                                                                                                                                                2 SSLF 5
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: Georgia
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/ENTION: Identification of Genes
                                                                                                                                                                                                                                                                                                                                                                                    NO protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09-JUN-1997
                                                                                                                                                                                                                                                                                                                     94.7%; Score 18; DB 100.0%; Pred. No. 66;
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RESULT 15
US-09-201-945-201
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Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 201, Application US/09201945
Patent No. 6342215
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: 619-554-2937
TELEFAX: 619-554-6312
INFORMATION FOR SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM CC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: LOGAN, ADTIL C. 33,950
REGISTRATION NUMBER: 33,950
REFERENCE/DOCKET NUMBER: SCI
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/156,552
FILING DATE: 15-NCV-1993
APPLICATION NUMBER: US 08/102,944
FILING DATE: 02-AUG-1993
ANTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/637,759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 100.
                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                         TLE OF INVENTION: Id MBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/09/035,249A FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                 IDDRESSEE: Patrea I. Pabet
TREET: 2800 One Atlantic Center
TREET: 1201 West Peachtree Street
ITY: Atlanta
TTATE: Georgia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 SSLF 5
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10666 No. 6184203th Torrey Pines Road, TPC 8
                                                                                                                                                                                                                 USA
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                                                                       US/09/201,945
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Pred. No.
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                                                                                         US-09-201-945-201
                        Query Match
Best Local Similarity 100.
                                                                                                                                                           TELEFAX: (404) 873-879
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 12 amino acids
                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                    NAME: Pabst, Patrea L.
REGISTRATION NUMBER: 31,284
REFERENCE/DOCKET NUMBER: RPMS 101
ILECOMMUNICATION INFORMATION:
TELEPHONE: (404) 873-8794
                                                                                                                                                                                      TELEPHONE: (404) F
                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                   TRANDEDNESS:
                                                                                                                                              ENGTH: 12 amino acids
                 2 SSLF 5
                                                                                                                            : XBO
SSLF 11
                                                                                                                       ss: single
linear
                                                                                                  . protein
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                                      94.7%; but
100.0%; Pr
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                                                      Score 18; DB 4; Length 12; Pred. No. 66;
                                            Mismatches
                                           0; Indels
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Gaps

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Search completed: January 29, 2004, 15:03:23 Job time: 7.17647 secs

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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                        Score
            Published Applications AA:*

1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*

7: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*

11: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*

12: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*

13: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*

14: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*

15: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*

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19: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
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Match Length
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          789580 segs, 207824079 residues
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Copyright (c) 1993 - 2004 Compugen Ltd
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    US-10-032-950-8
US-10-022-066-231
US-09-850-351A-66
US-10-022-066-266
US-10-032-950-1
US-10-032-950-2
US-10-032-950-4
US-10-032-950-4
US-10-032-950-4
US-10-032-950-4
US-10-032-950-4
US-10-032-950-4
US-10-032-950-4
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US-10-171-171-96
US-10-171-96-11
US-10-171-613-31
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Sequence 8, Appli
Sequence 231, App
Sequence 67, Appli
Sequence 266, Appli
Sequence 2, Appli
Sequence 3, Appli
Sequence 3, Appli
Sequence 470, Appli
Sequence 12, Appli
Sequence 12, Appli
Sequence 12, Appli
Sequence 11, Appli
Sequence 12, Appli
Sequence 12, Appli
Sequence 13, Appli
Sequence 5, Appli
Sequence 5, Appli
Sequence 31, Appli
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US-10-032-950-8

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16 18 94.7 14 12 US-10-158-825-59 Sequence 59, Appl 18 18 18 94.7 15 9 US-09-759-010-10 Sequence 10, Appl 19 18 94.7 16 12 US-10-62-59-88 Sequence 10, Appl 20 18 94.7 16 15 US-10-62-59-88 Sequence 10, Appl 21 18 94.7 16 15 US-10-62-81-88 Sequence 10, Appl 22 18 94.7 16 15 US-10-62-81-88 Sequence 1613, Appl 22 18 94.7 19 9 US-09-864-761-40860 Sequence 40860, Appl 22 18 94.7 19 9 US-09-864-761-478-80 Sequence 27, Appl 25 18 94.7 19 12 US-09-864-761-472-4 Sequence 2725, Appl 26 18 94.7 19 12 US-09-864-761-472-4 Sequence 375-6, Appl 27 18 94.7 19 12 US-09-864-761-472-4 Sequence 375-6, Appl 28 18 94.7 19 12 US-09-864-761-472-339 Sequence 375-6, Appl 29 18 94.7 20 12 US-09-862-756-746 Sequence 374, Appl 31 18 94.7 20 12 US-09-962-756-746 Sequence 742, Appl 31 18 94.7 20 12 US-09-962-756-746 Sequence 742, Appl 32 18 94.7 20 12 US-09-962-756-746 Sequence 744, Appl 33 18 94.7 20 12 US-09-962-756-746 Sequence 742, Appl 34 18 94.7 20 12 US-09-962-756-746 Sequence 742, Appl 36 18 94.7 20 12 US-09-962-756-746 Sequence 742, Appl 37 18 94.7 20 12 US-09-962-756-746 Sequence 742, Appl 38 18 94.7 20 12 US-09-962-756-746 Sequence 742, Appl 39 18 94.7 20 12 US-09-962-756-746 Sequence 742, Appl 39 18 94.7 20 12 US-09-962-756-746 Sequence 744, Appl 39 18 94.7 20 12 US-09-962-756-746 Sequence 744, Appl 39 18 94.7 20 12 US-09-962-756-746 Sequence 744, Appl 39 18 94.7 20 12 US-09-962-756-746 Sequence 744, Appl 39 18 94.7 21 12 US-09-962-756-746 Sequence 744, Appl 39 18 94.7 21 12 US-09-962-756-7602 Sequence 746, Appl 30 18 94.7 21 12 US-09-962-756-7602 Sequence 748, Appl 30 18 94.7 21 12 US-09-962-756-7602 Sequence 602, Appl 40 18 94.7 21 12 US-09-962-756-7602 Sequence 602, Appl 41 18 94.7 25 11 US-09-983-31-602 Sequence 602, Appl 41 18 94.7 25 11 US-09-983-31-602 Sequence 602, Appl 42 11 18 94.7 25 11 US-09-983-31-602 Sequence 369, Appl 44 19 94.7 25 11 US-09-983-31-602 Sequence 369, Appl 44 19 94.7 25 11 US-09-983-31-603 Sequence 21, Appl 44 19 94.7 25 11 US-09-983-31-603 Sequence 21, Appl 44 19 94.7 25 11 US-09-983-31-603 Sequence 2
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ALIGNMENTS

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APPLICANT: JI, Guangyong
ITITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
ITITLE OF INVENTION: INTERPERENCE
FILE REFERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 8
LENGTH: 5
ITYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: peptide
NAME/KEY: VARIANT
LOCATION: (1)
OTHER INFORMATION: Xaa represents any amino acid at this position.
US-10-032-550-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 8, Application US/10032950
Publication No. US20020077453A1
GENERAL INFORMATION:
APPLICANT: Muir, Tom
APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453A1ick, Ri
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
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                                               Query Match
Best Local S
Matches 4
                                                 4.
                                                                   Similarity
          SSLF 5
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                                           94./..
100.0%; Pr
                                             94.7%; Score 18; DB
100.0%; Pred. No. 6.9
Live 0; Mismatches
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; Sequence 67, Applicati
; Patent No. US200201000
; GENERAL INFORMATION:
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US-10-022-066-231
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: METHOD AND APPARATUS FOR THE PRODUCTION OF ANTIGENS AND FILE REFERENCE: 6680.034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/10/022,066
CURRENT FILING DATE: 2002-09-09
PRIOR APPLICATION NUMBER: 60/256,410
PRIOR FILING DATE: 2000-12-18
PRIOR APPLICATION NUMBER: 60/256,409
PRIOR FILING DATE: 2000-12-18
PRIOR FILING DATE: 2000-12-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: 09/465,321 PRIOR FILING DATE: 1999-12-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: 09/974,366 PRIOR FILING DATE: 2001-10-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NO 231
ZIP: 32606-6669

COMPUTER READABLE FORM:
MEDIUM TYPE Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PERCENTING Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                   NUMBER OF SEQUENCES: 144
CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
                                                                                                                                                                                                                                                       MOTTIL1, George
TITLE OF INVENTION: No. US20020100080Alel Pesticidal Toxins and Nucleotide
Sequences Which Encode These Toxins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 SSLF
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4; Conservative
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                                                                                                                                     COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09850351A
                                                                                                                                                                                                                                                                                                                                                                                                         Schnepf, H. Ernest
Narva, Kenneth E.
Stockhoff, Brian A.
Schmeits, James
                                                                                                                                                                                                                                                                                                                         Loewer, David
Dullum, Charles Joseph
Muller-Cohn, Judy
Stamp, Lisa
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                  Version #1.30
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FYPE: peptide ; SEQUENCE DESCRIPTION: SEQ ID NO: 67: US-09-850-351A-67
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                                                                                                                                                 US-10-022-066-266
                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/10/022,066
CURRENT FILING DATE: 2002-09-09
PRIOR APPLICATION NUMBER: 60/256,410
PRIOR FILING DATE: 2000-12-18
PRIOR APPLICATION NUMBER: 60/256,409
PRIOR FILING DATE: 2000-12-18
PRIOR FILING DATE: 2000-12-17
PRIOR APPLICATION NUMBER: 09/465,321
PRIOR APPLICATION NUMBER: 09/465,321
PRIOR APPLICATION NUMBER: 09/465,321
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                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: 09/974,366
PRIOR FILING DATE: 2001-10-10
NUMBER OF SEQ ID NOS: 638
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 266
                                                       Query Match
Best Local Similarity
Matches 4; Conserv
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APPLICANT: HILDEBRAND, WILLIAM H.
APPLICANT: PRILLIMAN, KILEY RAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match

Best Local Similarity

Matches 4; Conserv
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Publication No.
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TITLE OF INVENTION: METHOD AND APPARATUS FOR THE PRODUCTION OF ANTIGENS AND
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 6680.034
                                                                                                                                                            FEATURE: OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION; peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 67: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
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FILING DATE: 06-MAX-1998
APPLICATION NUMBER: US 08/960,780
FILING DATE: 30-OCT-1997
APPLICATION NUMBER: US 60/029,848
FILING DATE: 30-OCT-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear MOLECULE TYPE: peptid
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REFERENCE/DOCKET NUMBER: MA
TELECOMMUNICATION INFORMATION:
TELEPHONE: 352-375-8100
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2 SSLF 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENGTH: 9 amino acids
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                                                          94.7%; Score 18; DB ilarity 100.0%; Pred. No. 6. Conservative 0; Mismatches
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. 6.9e+05;
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. 6.9e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
1. NO. 2
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Publication No.
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                                                                                                                                                                                                                                                                                                                                     APPLICANT: 11, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES FOR BACTERIAL
TITLE OF INVENTION: INTERFERENCE
FILE REPERENCE: 600-1-231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
CURRENT FILING DATE: 2001-12-27
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APPLICANT: J1, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEPTIDES
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
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PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
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CURRENT FILING DATE: 2001-12-27
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OTHER INFORMATION: Xaa represents any amino acid at this position
                         OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                              ORGANISM: Artificial Sequence
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PPLICANT: No. US20020077453Alick, Richard P.
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4; Conservative (
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No. US20020077453Alick, Richard
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APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
TITLE OF INVENTION: NOVEL STAPHYLOCOCCUS PEP
TITLE OF INVENTION: INTERPERENCE
FILE REFERENCE: 6001-1231N
CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
NUMBER OF SEQ ID NOS: 8
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Best Local Similarity 100.
The A; Conservative
                                                           CURRENT APPLICATION NUMBER: US/10/032,950
CURRENT FILING DATE: 2001-12-27
PRIOR APPLICATION NUMBER: 60/090,402
PRIOR FILING DATE: 1998-06-24
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PACENTIN Ver. 2.0
SEQ ID NO 4
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Best Local Similarity
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                                                                                                                                                                                                                       APPLICANT: 11, GHANGYONG
TITLE OF INVENTION: NOTEL STAPHYLOCOCCUS PEPTIDES
TITLE OF INVENTION: INTERFERENCE
FILE REFERENCE: 600-1-231N
                                                                                                                                                                                                                                                                                       APPLICANT: Mayville, Patricia
APPLICANT: No. US20020077453A1ick, Richard P.
APPLICANT: Beavis, Ronald
APPLICANT: Ji, Guangyong
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                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Muir,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide NAME/KEY: VARIANT LOCATION: (5)
OTHER INFORMATION: Xaa represents any amino acid at this position OTHER INFORMATION: Xaa represents any amino acid at this position
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Artificial Sequence FEATURE:
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No. US20020077453Alick,
Beavis, Ronald
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100.0%; Pred. No.
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US-09-572-270A-470
                                                                                                                                       ORGANISM: Arabidopsis Thaliana
OTHER INFORMATION: Sequence located in Unknown at 10-19 and may interact with US-09-572-270A-470
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Best Local S
Matches 4
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Best Local S
Matches 4
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CURRENT FILING DATE: 2000-05-17
NUMBER OF SEQ ID NOS: 1144
SOFTWARE: ProtPatent version 1.0
SEQ ID NO 470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/10201444 Publication No. US20030078378A1 GENERAL INFORMATION:
                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                Sequence 470, Application US/09572270A Publication No. US20030148368A1
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                                                                      Matches
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CURRENT FILING DATE: 2002-07-23
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                                                                                                                                                                                                                                                                                                                             APPLICANT: Proteom Ltd
TITLE OF INVENTION: Inter- complementary peptide listing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE: 1997-05-22
NUMBER OF SEQ ID NOS: 8
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OTHER INFORMATION:
OTHER INFORMATION:
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                                 SSLF 5
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                                                                                   94.7%; Score 18; DB 12;
100.0%; Pred. No. 1.8e+02;
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                                                                      Mismatches
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; FEATURE: ; OTHER INFORMATION: Androgen Receptor Binding Polypeptides US-10-097-175-86
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US-10-293-086-12
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Best Local S
Matches 4
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Publication No. US20030134310A1
GENERAL INFORMATION:
APPLICANT: Cujec, Thomas P.
TITLE OF INVENTION: Cellular Kinase Targets and Inhibitors,
TITLE OF INVENTION: and Methods For Their Use
                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: JOYAL, J
APPLICANT: MUELLER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 12 LENGTH: 11
                                                                                                                                                                                                           SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 86
LENGTH: 11
                                                              Query Match
Best Local Similarity
Matches 4; Conserv
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CURRENT APPLICATION NUMBER: US/10/293,086
CURRENT FILING DATE: 2003-03-25
PRIOR APPLICATION NUMBER: US 60/337,990
PRIOR FILING DATE: 2001-11-13
                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: 60/352,399
PRIOR FILING DATE: 2002-01-28
NUMBER OF SEQ ID NOS: 102
                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: PPI-110
CURRENT APPLICATION NUMBER: US/10/097,175
CURRENT FILING DATE: 2002-03-12
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                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/275,240
PRIOR FILING DATE: 2001-03-12
                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: OZA, VIBHA B.
APPLICANT: FINDEIS, MARK A.
TITLE OF INVENTION: PEPTIDIC MODULATORS OF THE ANDROGEN RECEPTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Phosphorylation consensus sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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                                                                  Conservative
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100.0%; Pr
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Pred. No.
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Pred. No.
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                                                                                DB 15;
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2e+02;
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RESULT 13 US-10~435-666-1

; Sequence 1,
; Publication

Application US/10435666 No. US20040006001A1

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APPLICANT: Middleton, Crystan
TITLE OF INVENTION: INTERFACIAL BIOMATERIALS
FILE REFERENCE: 180/143/2
CURRENT APPLICATION NUMBER: US/10/300,694A
CURRENT FILING DATE: 2003-05-07
PRIOR APPLICATION NUMBER: US 60/331,843
PRIOR FILING DATE: 2001-11-20
NUMBER OF SEQ ID NOS: 117
SOFTWARE: Patentin version 3.2
SEQ ID NO 5
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US-10-435-666-1
                                                                                                                                                                                                                                                          RESULT 15
US-10-174-613-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ) OTHER INFORMATION: Polystyrene-binding peptide 5 US-10-300-694A-5
Sequence 31, Application US/10174613

Publication No. US20030114354A1

GENERAL INFORMATION:

APPLICANT: Bristcol-Myers Squibb Company

APPLICANT: Bristcol-Myers Squibb Company

TITLE OF INVENTION: POLYNICLEOTIDE ENCODING A NOVEL POTASSIUM CHANNEL WITH HOMOLOGY

TITLE OF INVENTION: Ether-a-go-go FAMILY, HEAG2

FILE REFERENCE: D0123 NP

TITLE OF INVENTION: UNDER: US/10/174,613

CURRENT PILING DATE: 2002-06-19

PRIOR APPLICATION NUMBER: US 60/299,378

PRIOR FILING DATE: 2001-06-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: CARTER, Daniel C.
APPLICANT: CARTER, Daniel C.
TITLE OF INVENTION: FERRITIN FUSION PROTEINS FOR USE IN VACCINES AND OTHER APPLICATIC
TITLE OF INVENTION: FERRITIN FUSION PROTEINS FOR USE IN VACCINES AND OTHER APPLICATIC
CURRENT FILING DATE: 2003-05-12
PRIOR APPLICATION NUMBER: 60/379,145
PRIOR APPLICATION NUMBER: 60/379,145
PRIOR FILING DATE: 2002-05-10
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.1
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LENGTH: 12
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Best Local (
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JENERAL INFORMATION:
APPLICANT: Duke University
APPLICANT: Grinstaff, Mark W.
APPLICANT: Kenan, Daniel J.
APPLICANT: Walsh, Elisabeth B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -10-300-694A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    equence 5, Application US/10300694A blication No. US20030185870A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Artificial
FEATURE:
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100.0%; Pred. No. 2.2e+02;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                            94.7%; Score 18; DB 12; 100.0%; Pred. No. 2.4e+02; tive 0; Mismatches 0;
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                                                                                                      ; LENGTH: 13
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-174-613-31
                                                   Matches
                                                                Query Match
Best Local Similarity
                                                                                                                                                         SOFTWARE: PatentIn version 3.0 SEQ ID NO 31
                                                                                                                                                                                  PRIOR APPLICATION NUMBER: US 60/300,614
PRIOR FILING DATE: 2001-06-25
NUMBER OF SEQ ID NOS: 93
 1 SSLF 4
                           2 SSLF 5

    Conservative

                                                                94.7%;
                                                                Score 18; DB 15; pred. No. 2.4e+02;
                                                      0; Mismatches
                                                                              Length 13;
                                                      Indels
                                                      <u>,,</u>
                                                      Gaps
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Search completed: January 29, 2004, 15:01:47 Job time : 15.1912 secs